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RIZONA CORPORATION COMMISSION

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2002 MAY 10 P 4: 16

AZ CORP COMMISSION  
DOCUMENT CONTROLWILLIAM A. MUNDELL  
ChairmanJIM IRVIN  
CommissionerMARC SPITZER  
CommissionerIN THE MATTER OF U S WEST  
COMMUNICATIONS, INC.'S  
COMPLIANCE WITH SECTION 271  
OF THE TELECOMMUNICATIONS  
ACT OF 1996

Docket No. T-00000A-97-0238

NOTICE OF ERRATA FILING

On May 1, 2002, the Staff of the Arizona Corporation Commission ("ACC Staff") filed its Supplemental Report on Checklist Item 2, regarding Qwest's compliance with Operational Support System ("OSS") requirements. Staff has attached a list of nonsubstantive erratas which have been made to the Report. In addition, Staff has attached a revised report which incorporates those erratas for the parties' convenience. No changes were made to the May 1, 2002 exhibits.

RESPECTFULLY submitted this 10<sup>th</sup> day of May, 2002.

Arizona Corporation Commission

DOCKETED

MAY 10 2002

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2 were filed this 10<sup>th</sup> day of May, 2002, with:

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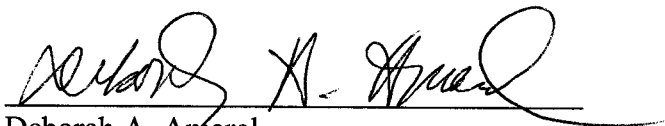
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**LIST OF ERRATAS**

**May 10, 2002**

- 1 Page 2, para. 3, line 4, after "MTP" insert "prepared by the Commission's consultant, DCI,"
- 2 Page 3, para. 7, line 10, change "10" to "18"
- 3 Page 3, para. 9, line 2, after (PMA) add "of Qwest performance data"
- 4 Page 3, para. 9, line 5, remove "PID" and add "Performance Indicator Definitions (PID) used by  
5 Qwest for reporting its performance in providing service to CLECs."
- 6 Page 4, para. 14, line 8, after "." add "\*"; at the bottom of the page add "\* HP Documentation  
Inventory 1/28/02 File."
- 7 Page 8, para. 27. c, line 1, after "program were" insert "to be"
- 8 Page 8, para. 28, line 2, after developed, add "into its final form by the ACC and the TA,"
- 9 Page 8, para. 28, line 2, after "collaboratively" change "by" to "with"
- 10 Page 8, para. 30.a., line 10, after "for a " remove "many" and insert "a statistically significant number  
11 of"
- 12 Page 10, para. 30.e., line 6, after "Definitions" remove underlining from "(PID)"
- 13 Page 10, para. 30.e., line 15, after "in the" remove the underlining from PID"
- 14 Page 10, para. 31., line 3, replace the "a" after "by" with "the"
- 15 Page 10, para. 31, line 4, after "Indicators", insert "(PIDs)"
- 16 Page 10, para. 33, line 6, remove "(supplanting EB-TA)"
- 17 Page 11, para. 34, line 6, remove the word "both"
- 18 Page 11, para. 34, line 7 remove the words "Functionality and"
- 19 Page 12, footnote 9, line 1, after "for" remove "the"
- 20 Page 13, para. 42, line 6, after "in the" insert "Functionality Test"
- 21 Page 13, para. 42, line 6, before "phase;" insert parenthesis around "FT"
- 22 Page 14, para. 47, line 5, after "were as" insert "a"
- 23 Page 16, para. 53, line 3, after "formulated" insert "in the OSS Tests"
- 24 Page 16, para. 53, line 3, after formulated, change the number "182" to "184"
- 25 Page 16, para. 53, line 3, insert "( before "A"
- 26 Page 16, para. 53, line 5, after "Audit." Insert ")"
- 27 Page 16, para. 53, line 6, remove "; and two are currently under evaluation."
- 28 Page 16, para. 54, table: row 2, column 3, change "7" to "8"

## LIST OF ERRATAS

May 10, 2002

- 1 Page 16, para., 54, table: row 2, column 5, change "27" to "28"
- 2 Page 16, para. 54, table: row 2, column 8, change "137" to "139"
- 3 Page 17, para. 55, OSS Databases Modified, line 1, after "of" change the "seven" to "eight"
- 4 Page 17, para. 55 OSS Procedures Modified, line 1, after "of" change the "37" to "38"
- 5 Page 17, para. 56, line 3, after "table:" insert page break to keep the table together
- 6 Page 19, para. 60, IABS Architecture, line 2, after "via an" insert "Access Service Request"
- 7 Page 19, para. 60, insert "(" before "ASR" and insert ")" after "ASR"
- 8 Page 22, para. 67, line 3, delete "for each"
- 9 Page 22, para. 67, line 4, delete "particular measure"
- 10 Page 23, para. 69, line 1, insert "reconciliation" before "work"
- 11 Page 23, para. 72.b., line 4, after "for" change ILECs to CLECs
- 12 Page 24, para. 72.d., line 1, after "ACC" insert "should"
- 13 Page 24, para. 73, line 1, after "discussed" replace "in the body of" of, with "elsewhere in"
- 14 Page 24, para. 77, line 1, after "database" delete ", has been"
- 15 Page 24, para. 77, line 2, remove "audited by the Test Administrator and"
- 16 Page 25, para. 77, line 1, replace "Performance" with "Commercial"
- 17 Page 26, para. 79.a., line 3, after "LSR" delete "or ASR and "
- 18 Page 26, para. 79.b., line 2, after "LSRs" delete "or ASRs"
- 19 Page 29, para. 89, line 3, after "of" change "113" to "139"
- 20 Page 29, para. 89, line 4, after improvement, change "(29)" to "(44)"
- 21 Page 29, para. 89, line 4, after "tables" change "(7)" to "(8)"
- 22 Page 29, para. 89, line 5, after "procedural changes" change "(20)" to "(28)"
- 23 Page 29, para. 89, line 5, after "metric" change "(26)" to "(28)"
- 24 Page 30, para. 94, line 4, after "report." replace "Data from" with "Corrections based on"
- 25 Page 30, para. 94, line 5, after "are" replace "also included" with "incorporated"
- 26 Page 30, para. 95, line 3, before "data" replace "commercial" with "Pseudo-CLEC"
- 27 Page 30, para. 95, line 3, after "augmented by" insert "aggregate CLEC"
- 28 Page 30, para. 95, line 3, after "data" delete "obtained from"

## LIST OF ERRATAS

May 10, 2002

- 1 Page 30, para. 95, line 4, before "." remove "Pseudo-CLEC and aggregate CLEC's"
- 2 Page 32, para. 100.e., line 3, after "report" replace "experiences" with "all trouble reports"
- 3 Page 32, para. 100, line 3, replace "resale" with "Pseudo-CLEC"
- 4 Page 32, para. 100, line 3, after "resale services" delete "in the same manner as for other services"
- 5 Page 35, para. 109, line 2, after the word "performance" replace "on" with "in"
- 6 Page 42, para. 112.d., line 16, after "Spreadsheet." Insert "(Recommendation No. 8)"
- 7 Page 42, Footnote No. 55, line 1, after "RPE," insert "and"
- 8 Page 61, para. 181, line 6, after "below" replace ":" with "."
- 9 Page 63, para. 191, line 2, after "Qwest" delete "also"
- 10 Page 65, para. 195, line 7, after "out," replace "mer" with "mere"
- 11 Page 70, para. 220, line 1, after "CGE&Y" insert " ' " (an apostrophe)
- 12 Page 70, para. 222, line 1, after "CLEC's" change "argues" to "argue"
- 13 Page 74, heading 7.a., replace "Audit" with "Evaluation"
- 14 Page 81, Footnote 138, line 3, after "PIDs" replace "have" with "has"
- 15 Page 82, para. 264, line 10, remove space between "index" and "." on the website address
- 16 Page 82, para. 266, line 1, after "9-1" delete "(in the previous Section of this report)"
- 17 Page 83, para. 268, delete lines, 4, 5, 6, 7, and 8
- 18 Page 83, para. 270, line 3, after "results" insert "and"

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**IN THE MATTER OF QWEST CORPORATION'S  
SECTION 271 APPLICATION**

**ACC Docket No. T-00000A-97-0238**

**SUPPLEMENTAL REPORT AND STAFF RECOMMENDATION  
ON QWEST'S COMPLIANCE**

**WITH**

**CHECKLIST ITEM NO. 2: ACCESS TO  
UNBUNDLED NETWORK  
ELEMENTS**

**OPERATIONAL SUPPORT SYSTEM  
REQUIREMENTS**

**MAY 1, 2002**



## I. FINDINGS OF FACT

### A. PROCEDURAL HISTORY

1. On February 8, 1999, US West, now Qwest, filed notice with the Arizona Corporation Commission (ACC) indicating that it intended to file an application with the Federal Communications Commission (FCC), pursuant to Section 271 of the Telecommunications Act of 1996 (1996 Act), to provide interLATA telecommunications services that originate in Arizona.

2. The ACC's Hearing Division issued a Procedural Order on June 8, 1999, in Docket No. T-00000A-97-0238. This Procedural Order required interested parties to submit comments on appropriate Operations Support Systems (OSS) performance standards that could be used to assess whether Qwest satisfies the expressed requirements of Section 271 pertaining to non-discriminatory access to its OSS. On the basis of responses to the June 8, 1999 Order, a second Procedural Order was issued by the ACC on July 2, 1999 that prescribed a series of open and collaborative workshops to determine appropriate OSS performance standards for Qwest.

3. The ACC's initial scope of testing included a limited evaluation of the functionality of Qwest's OSS. On the basis of the July 2, 1999 Order, the ACC expanded its scope of work to include preparation of a Draft OSS Master Test Plan (MTP) defining a comprehensive evaluation of Qwest's OSS. The Draft MTP, prepared by the Commission's consultant, DCI, was distributed to all participants in the Arizona 271 proceeding for comment.

4. A Request for Proposal (RFP) to conduct a comprehensive Third Party Test of Qwest's OSS was issued by the ACC. Interested parties were invited to comment on the proposals submitted, and the ACC subsequently conducted a series of vendor interviews. Selection of an independent Test Administrator (TA) and a Test Transaction Generator (the Pseudo-CLEC) were made in the fourth quarter of 1999. Cap Gemini Telecom Media & Networks U.S., Inc. was chosen to be the TA. As a result of a subsequent merger Cap Gemini is now known as Cap Gemini Ernst & Young Telecom, Media & Networks ("CGE&Y"). Hewlett Packard (HP) was chosen to be the Pseudo-CLEC.

5. Participant comments and suggestions concerning the Draft MTP provided the basis for agendas for the first series of Workshops. Competitive Local Exchange Carriers ("CLECs") appearing at the Workshops included AT&T, WorldCom, Sprint, Electric Lightwave, Inc.(ELI) e.spire Communications, Inc., Eschelon Telecommunications of Arizona, Allegiance Telecommunications, and Z-Tel Communications, Inc.

6. During these initial Workshops, the parties established the Test Advisory Group (TAG) that was comprised all interested CLECs, Qwest, Staff, its Consultant

(DCI), CGE&Y, and HP. The TAG was designed to serve as a forum where OSS testing issues could be discussed and resolved on an ongoing basis.

7. The TAG met at least twice per month from its inception to the present. During the course of the Qwest Arizona OSS Test, more than 50 TAG meetings have been held, with each providing the CLECs and Qwest with an opportunity to raise issues in an open forum. It established and implemented processes for recording and tracking issues that arose, and for initiating and completing Action items. In addition, two subcommittees of the TAG were established: a subcommittee on Statistics and one for Capacity Testing. The former ensured that test sample sizes led to statistically valid results. The latter sub-committee focused on the design of the Capacity Test. Any TAG member was allowed to take to "impasse" for ACC Staff resolution, any testing issues on which the TAG members could not reach agreement. Approximately 18 issues, out of the hundreds addressed, were taken to impasse for Staff resolution.

8. Workshops with TAG participation were conducted by CGE&Y to finalize the MTP. Through these workshops and associated TAG meetings, a number of significant changes to the MTP, were agreed upon and adopted by the TA based on CLEC inputs and comments. CGE&Y also conducted workshops to allow for maximum input and comment on a Test Standards Document (TSD), which contained a more detailed rendition of each test and how it would be conducted. Explicit "Entrance" standards for commencing and "Exit" standards for concluding each of the tests were established as effective control mechanisms. The TSD also provided detailed Test Cases within the Scenarios, Scripts and other exact specifications as to how the tests would be conducted.<sup>1</sup>

9. The MTP also provided that CGE&Y would initially conduct an extensive Performance Measurement Audit (PMA) of Qwest performance data. The TAG agreed that the PMA would be conducted in accordance with Government Accounting Office (GAO) standards and would determine whether Qwest was accurately calculating and reporting its performance in accordance with the Performance Indicator Definitions ("PID") used by Qwest for reporting its performance in providing service to CLECs. The audit began in August of 2000 and was conducted in 3 phases. Table 3 of the Final PMA report lists the measures that were audited during each particular phase of the PMA audit. The audit report also specifies which version of the PID was in effect at the time each measure was undergoing the audit process.

10. The other four phases of the OSS test included the Functionality Test, the Retail Parity Test, the Relationship Management Test and the Capacity Test. Phase I of the Functionality Test began in December 2000 and ended in June, 2001. The Relationship Management Test was commenced immediately upon Pseudo-CLEC start-up and observations regarding Qwest's interactions with the CLECs continued throughout the remainder of the test. The Retail Parity Test consisted of two phases which began on August 28, 2000 and February 12, 2001. The Capacity Test was

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<sup>1</sup> The MTP and TSD are discussed in more detail below.

conducted on August 10, 2001. Functionality and Retail Parity retesting was conducted in the fall of 2001.

11. The TAG agreed that after each part of the OSS Test was conducted, CGE&Y would issue interim reports containing its initial findings. After each interim report was issued, the ACC held workshops to allow TAG members and other 271 participants to question CGE&Y and HP on their interim findings and test conclusions. In Staff's opinion, the interim workshops were critical to successful resolution of the OSS Test. The interim workshops allowed test deficiencies and the parties' concerns to be identified early so that they could be resolved in a timely fashion. CGE&Y and Staff were able to resolve a significant number of the concerns identified with each test due to the interim workshop process.

12. Interim reports on the Retail Parity, Relationship Management, Capacity Test and Functionality Test were issued on July 5, 2001, September 27, 2001, October 1, 2001 and October 11, 2001 respectively. Workshops were held on the Retail Parity Interim Report on August 7-9, 2001, the Relationship Management Interim Report on October 9-11, 2001, the Capacity Test Interim Report on October 25-26, 2001, and the Functionality Test Interim Report on November 27-29, 2001. Interim Reports on the PMA were issued on October 6, 2000 and December 8, 2000. In addition, CGE&Y issued a Draft Final Report (covering all phases of the test) on December 21, 2001. A Workshop was held on January 28-31, 2002 to discuss the Draft Final Report. CGE&Y issued its Final Report on March 29, 2002. A final workshop was held on April 17-18, 2002 to discuss the Report and the Supplemental Reports issued by CGE&Y and HP.

13. Following is a chart providing quantitative information about each of these workshops:

| Test Section                             | Workshop Length | Pre-Filed Questions |
|--|-----------------|---------------------|
| Retail Parity Evaluation                 | 3 days          | 161                 |
| Relationship Management Evaluation       | 2.5 days        | 291                 |
| Capacity Test                            | 2 days          | 197                 |
| Functionality Test                       | 5.5 days        | 442                 |
| Draft Final Report of the Qwest OSS Test | 5 days          | 233                 |
| Follow-up Workshop                       | 2 days          | 117                 |

**Figure 1-1 – Workshop Length and Pre-Filed Questions**

14. A unique feature of the Arizona OSS Test was the establishment of a Document Viewing Room in which all Parties to the Tests could view the entire OSS Test record (or relevant portion thereof) prior to each Workshop. The Document Viewing Room, established in July 2001, ensured the broad scale distribution of underlying test data and records in the Arizona OSS Test and allowed parties an opportunity to review all underlying documentation prior to each workshop on each phase of the OSS test. Over 2,700 documents were made available for the parties' review during the course of the test. \*

\* HP Documentation Inventory 1/28/02 File

15. The major CGE&Y Reports released during this test included: 1) Retail Parity Interim Report, 2) Relationship Management Interim Report, 3) Capacity Test Interim Report, 3) Functionality Test Interim Report, 4) Performance Measurement Audit Interim Report, 5) CGE&Y Final Report of Qwest's OSS, 6) Performance Measurement Audit Final Report, 7) CGE&Y Evaluation of Qwest's Change Management Process, 8) CGE&Y Data Reconciliation Report, 9) CGE&Y Performance Indicator Definitions (PID) Data Element Summary Report 10) Functionality Test Results Comparison Report, 11) CGE&Y Supplemental DUF Evaluation. The major HP Reports released during the course of this test included: 1) The CLEC 12-Step Process Report, 2) the Help Desk Report, 3) EDI Connectivity Report, 4) IMA Connectivity Report, 5) EB-TA Report, 6) IMA-EDI 6.0 Migration Report, 7) Billing Supplement to 12 Step Process Report, 8) Functionality Test Summary Report, 9) Capacity Test Summary Report, 10) Billing Supplemental Test Summary, 11) SATE Evaluation Report, 12) SATE New Release Test Summary Report – 9.0, and 13) two Preorder to Order Integration Reports addressing both LSOG3 and LSOG5.

16. This Supplemental Report presents ACC Staff's report and recommendations regarding the recently completed OSS Tests conducted by CGE&Y. ACC Staff, with its consultant have observed all aspects of the OSS Tests from inception to conclusion, and have carefully reviewed CGE&Y's Final Report issued on March 29, 2002.

17. By design, the Staff Report is constructed to initially provide an overview of the OSS Test program, objectives and process. There follows a summary of the findings of the Test Administrator on all aspects of the test and a summary of Staff's conclusions and recommendations. Next, the objectives and process associated with each distinct OSS test is described. Following that discussion, is a discussion of the Test Administrator's findings and recommendations, the positions of the parties and a discussion by Staff along with Staff's findings and recommendations.

18. The Staff Report incorporates an extensive set of Exhibits that provides an additional level of detail in discussions of subject matter being addressed. The Exhibits represent a critical element of Staff's analysis and often provide the foundation for Staff's opinions and observations. This structure should enable the reader to delve into issues in much greater depth than presented in Report text, at their discretion. Exhibits cited in each section of this report are included at the end of the Report. Appendices are included after the Exhibits at the end of the Report. Graphs and Charts referred to in the text are included in pages following their citation in the text.

## **B. BACKGROUND**

### **1. FCC REQUIREMENTS**

19. The FCC has determined that access to OSS functions falls within an incumbent LEC's duty under Section 251(c)(3) to provide unbundled network elements under terms and conditions that are nondiscriminatory and just and reasonable, and its duty under Section 251(c)(4) to offer resale services without imposing any limitations or conditions that are discriminatory or unreasonable. See In the Matter of the Application

by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-Region, InterLATA Service in the State of New York, CC Docket No. 99-295, Memorandum Opinion and Order (Rel. December 22, 1999) ("Bell Atlantic New York Order").

20. The FCC has also found that nondiscriminatory access to OSS is a prerequisite to the development of meaningful local competition. Bell Atlantic New York Order at para. 83. The FCC has determined that without nondiscriminatory access to the BOC's OSS, competitive local exchange carriers ("CLECs") will be severely disadvantaged, if not precluded, from fairly competing in the local exchange market. Id.

21. The FCC has indicated that for a BOC to obtain Section 271 relief, it must demonstrate that it provides CLECs non-discriminatory access to its OSS<sup>2</sup>, and that its systems are operationally ready and capable of handling reasonably foreseeable demand, including CLEC generated loads. Specifically, Qwest must provide to the CLECs non-discriminatory access to its OSS for preordering, ordering, provisioning, repair and maintenance, and billing.

22. For OSS functions that are analogous to those that a BOC provides to itself, its customers or its affiliates, the nondiscrimination standard requires the BOC to offer requesting carriers access that is equivalent in terms of quality, accuracy, and timeliness. Id. at para. 85. The BOC must provide access that permits competing carriers to perform these functions in "substantially the same time and manner" as the BOC, or at parity.

23. For OSS functions that have no retail analogue, the BOC must offer access "sufficient to allow an efficient competitor a meaningful opportunity to compete." Id. at para. 86. In assessing whether the quality of access affords an efficient competitor a meaningful opportunity to compete, the FCC examines, in the first instance, whether specific performance standards exist for those functions. Id. If such performance standards exist, the FCC evaluates whether the BOC's performance is sufficient to allow an efficient competitor a meaningful opportunity to compete. Id.

24. The FCC analyzes whether the BOC has met the nondiscrimination standard for each OSS function using a two-step process. Id. at para. 87. First, the FCC determines whether the BOC has deployed the necessary systems and personnel to provide sufficient access to each of the necessary OSS functions and whether the BOC is adequately assisting competing carriers to understand how to implement and use all of the OSS functions available to them. Id. Under this inquiry, a BOC must demonstrate that it has developed sufficient electronic and manual interfaces to allow competing carriers equivalent access to all of the necessary OSS functions. Id. at para. 88. For

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<sup>2</sup> The OSS are composed of various "back office" systems, databases and personnel that an incumbent LEC uses to commercially provision telecommunications service to its customers, resellers, and the purchasers of unbundled network elements. See Local Competition First Report and Order, 22 FCC paras. 516-28 (rel. August 8, 1996).

example, a BOC must provide competing carriers with the specifications necessary for carriers to design or modify their systems in a manner that will enable them to communicate with the BOC's systems and any relevant interfaces. Id. In addition, a BOC must disclose to competing carriers any internal business rules and other formatting information necessary to ensure that a carrier's requests and order are processed efficiently. Id. Finally, a BOC must demonstrate that its OSS is designed to accommodate both current demand and projected demand for competing carrier's access to OSS functions. Id.

25. Second, the FCC assesses whether the OSS functions that the BOC has deployed are operationally ready, as a practical matter. Id. Here, the FCC examines performance measurements and other evidence of commercial readiness to ascertain whether the BOC's OSS is handling current demand and will be able to handle reasonably foreseeable demand volumes. Id. at para. 89. The most probative evidence that OSS functions are operationally ready is actual commercial usage. Id. Absent data on commercial usage, the Commission will consider the results of an independent, third-party test of the BOC's OSS.

26. As part of its analysis, the FCC looks at the systems, databases, and personnel on which Qwest relies in support of its claim that it provides access to OSS on a nondiscriminatory basis. The FCC also examines Qwest's change management process and the technical assistance that Qwest offers to competing carriers seeking to use OSS. The FCC also examines Qwest's provision of access to the critical OSS functions of pre-ordering, ordering, provisioning, maintenance and repair, and billing.

## **2. THE ARIZONA OSS TEST**

### **a. TEST OVERVIEW**

27. Qwest's OSS Test Program for Arizona was designed with the following objectives in mind:

a. The execution of a comprehensive independent Third Party Test Plan that would demonstrate to the ACC, the DOJ and the FCC, the degree of Qwest's operational readiness, performance, and capacity to provide access to preordering, ordering, provisioning, repair and maintenance, and billing OSS functionality to CLECs in the State of Arizona. Results of the Test would reflect Qwest's performance in comparison to the standards established through the previously described workshop process.

b. To provide an open, collaborative process, that would enable Qwest's OSS program to be systematically honed and refined. To the extent practical, the tests were conducted in a "production environment," as an overlay to normal retail and CLEC activity.

c. Observed OSS deficiencies of the OSS Test program were to be corrected as a matter of course during the extended testing program. Likewise, as a matter of course, opportunities for system enhancements were factored into the OSS Test program.

d. Tests that were determined to be premature (e.g., no CLEC had achieved the necessary functionality) were addressed on an exception basis, pursuant to the core OSS Test program if it was not practical to make meaningful evaluations within the OSS Test Plan time frame.<sup>3</sup>

28. As discussed, the test was conducted in accordance with the MTP which was developed into its final form by the ACC and the TA, collaboratively with the TAG. The MTP set forth the approach, scope and focus, timeline, roles and responsibilities, testing phases (planning, preparation, execution, and analysis/reporting), and all associated required activities for the testing of the CLEC's access to Qwest's OSS. This encompassed the aforementioned categories of tests and evaluations. The MTP provided a framework for the test participants to develop detailed test plans, as appropriate, and a "map" for the range of Arizona OSS tests that were to be conducted. The MTP listed Test Scenario-level detail and other high level requirements describing tests that were to be conducted in Arizona. The MTP described "what" was to be done.

29. The other controlling document was the TSD, which was developed by the TA with extensive TAG participation and was predicated on the MTP. The TSD provided detailed "Test Cases" within designated scenarios, together with scripts and other exact specifications as to how the Arizona tests were to be conducted. The TSD described in detail "how" the OSS tests and evaluations were to be executed. Scripted tests for Functionality, Retail Parity, and Capacity Tests were prepared by the TA and fully documented in the final version of the TSD.

30. There were five major components of the Arizona OSS test, which are summarized below:

a. **Functionality Test** – Designed to test the ability of Qwest's OSS to provide operational functionality to CLECs. The test encompassed Qwest's formal processes and procedures for preordering, ordering, provisioning, maintenance & repair (M&R), and billing services required by CLECs. The test encompassed resale, Unbundled Network Element-Platform (UNE-P), UNE-Loop, number portability, and UNE-Loop with number portability. Tests involved the collection of specified input data in a structured, controlled manner in accordance with specified test procedures. Performance Measurements provided the evaluative criteria for judging the success of the tests. The actual provisioning of service was evaluated for a statistically significant number of

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<sup>3</sup> For example, selected OSS tests for emerging services could be, if necessary, completed pursuant to the test program, as an extension of a Performance Assurance Plan or similar oversight mechanism. A process review was conducted in this case, in lieu of the test.

orders. As stated earlier, the test was primarily conducted in a production environment, i.e., using the same systems that "real" CLECs used.

**b. Retail Parity Evaluation** – Designed to provide qualitative, as well as quantitative, information needed to evaluate the parity of Qwest's OSS with respect to wholesale versus retail operations. This test compared the ability of a CLEC representative using "Qwest-provided OSS interfaces" to achieve an overall "comparable level of service and experience" as compared to the level of service and experience that a Qwest representative could provide using Qwest's "standard internal OSS interface." This test incorporated a comparison of OSS responsiveness as well as a comparison of the quality of the data accessed by the CLEC and Qwest representatives. This was primarily a qualitative analysis test to see how the experience of a CLEC "Rep" compared with that of a Qwest Retail "Rep."<sup>4</sup> This test was unique to Arizona developed by the Commission's consultant, DCI; it has not been done before in any other Section 271 OSS Test.

**c. Capacity Test** – Designed to test the capability of Qwest's OSS to handle loads equal to or greater than those for forecasted volumes one year beyond the OSS Test date. The TA, based upon forecasted loads that were provided by both Qwest and the CLECs and were agreed upon by the TAG, established total capacity test volumes. The Capacity Test included a Scalability Analysis, a review of procedures associated with both "computer systems scalability" and "staff scalability," that sought to determine the degree to which Qwest systems, operations and processes would be capable of handling both "projected" and "unexpected" CLEC loads in the future. Also, a Stress Test was established with a nominal "stress load" of the 12-month demand forecast plus an additional 50 percent. The Stress Test had no pass or fail criteria. It was performed to determine what volume level resulted in degradation of Qwest's OSS performance.

**d. Relationship Management Evaluation** – Evaluated whether the methods, procedures and information that Qwest employed to communicate with the CLECs were efficient and effective. The evaluation examined processes and procedures used by Qwest for CLEC account establishment, account management, training, CLEC/Qwest interface development, and Qwest "change management." An evaluation of Qwest's Stand Alone Test Environment (SATE) was conducted independently by HP, and is discussed in a separate supplemental report. Closely related thereto, is CGE&Y's evaluation of Qwest's Change Management Process which is also included in the supplemental report which addresses SATE.

**e. Performance Measurement Evaluation** – Designed to provide an assessment of performance measures that have been established to evaluate

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<sup>4</sup> CGE&Y's quantitative analysis went well beyond MTP requirements. However, the Retail Parity Evaluation benefited from heightened understanding of time delays associated with specific IMA processes.



Qwest's performance in providing service to the CLECs. A Performance Measurement Audit (PMA) was conducted to determine if reported Qwest results and data were consistent with the definitions of performance measures as described in Qwest's Service Performance Indicator Definitions (PID).<sup>5</sup> The audit was intended to verify that all calculations were being performed correctly, subject to input data being accurate. The validity of the input (or raw) data was evaluated by data reconciliation studies conducted by the TA, which contrasted Qwest and Pseudo-CLEC data and correlated information provided by the participating CLECs with Qwest's reporting of performance results under the measures defined in the PIDs. Liberty Consulting also conducted data reconciliation to determine if information provided by the participating CLECs demonstrated that Qwest's reported performance results were accurate, in accordance with measures defined in the PID.<sup>6</sup> This was an independent audit of Qwest's Arizona data used in calculating PIDs, in the context of a Qwest 14-State service area review.

31. Through these five tests, CGE&Y was able to undertake a thorough and comprehensive test of Qwest's wholesale processes and procedures and also do an exhaustive examination of their performance as measured by the set of Performance Measurement Indicators (PIDs) devised by the Arizona TAG. CGE&Y and HP's test was very broad, examining all stages of the relationship between Qwest and competing carriers, including the initial relationship, performing daily operations, and maintaining the relationship. Every aspect of the Qwest/CLEC relationship was explored and evaluated, including interface establishment.

32. By design of the test, the Pseudo-CLEC's systems interfaced with Qwest's production OSS used to support CLECs on a day-day basis. Thus, the OSS tests were performed by the CLEC and Pseudo-CLEC in a live environment, but in such a fashion so as not to disrupt existing customer services. This was as an overlay to normal retail and CLEC activity. The Test Administrator and Pseudo-CLEC maintained the greatest degree of "blindness" practical. Thus, Qwest personnel dealing with the Pseudo-CLEC believed it was a real CLEC. These processes allowed the Pseudo-CLEC and the Test Administrator to observe the same performance characteristics that CLECs see in the conduct of their business. Parties were thus able to observe and obtain through the activities of HP, a first-hand understanding of "living the CLEC experience" as a start up CLEC with Qwest. The Pseudo-CLEC also developed the interfaces for testing Qwest OSS systems.

33. Electronic gateways supported by Qwest serve as the means by which CLECs accessed Qwest's OSS systems. The specific electronic gateways considered within the scope of this testing were Interconnect Mediated Access (IMA) and Electronic

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<sup>5</sup> Enumerated in Appendix A of the PMA. All measures, and virtually every sub-measure and level of disaggregation were ultimately audited.

<sup>6</sup> Liberty Consulting performed data reconciliation studies in Arizona and other Qwest states. Arizona imported results from other states in order to confirm Arizona results. Liberty Consulting focusing on UNE-Loops and LIS Trunk provisioning.

Data Interchange (EDI) interface for pre-order and order; Electronic Bonding – Trouble Administration (EB-TA) and Customer Electronic Maintenance & Repair (CEMR) (supplanting EB-TA) for maintenance and repair and; Exchange Message Interface (EMI) and EDI for billing. The individual product types processed by means of the referenced electronic gateways are listed in Exhibit 2-1.

34. Both the application to application electronic data interchange (“EDI”) and the terminal type web-based graphical user interface (“GUI”) were tested. HP, as the Pseudo-CLEC, developed an electronic interface to Qwest’s EDI for use during testing. The Pseudo-CLEC used IMA EDI and IMA GUI interfaces to submit pre-order transactions, local service requests (LSRs) and trouble transactions for most tests. The Pseudo-CLEC also developed a “transaction generator” to execute Test Cases for the Capacity Tests. The Capacity Test was conducted using data generated by the Pseudo-CLEC, and CLEC “transaction simulators.”

35. HP, as the Pseudo-CLEC, worked with Qwest business rules, created and tracked orders, logged trouble tickets, etc. HP also established electronic bonding with Qwest, translating back and forth between business and EDI rule formats and assisting CGE&Y in resolving problems such as missing orders and responses. Documentation was evaluated for usefulness, correctness and completeness.

36. For test scenarios where the Pseudo-CLEC interfaces could not practically provide the coverage required, coverage by voluntary CLECs was utilized to supplement the tests being performed by the Pseudo-CLEC. These scenarios included EB-TA scenarios,<sup>7</sup> and other arrangements where the Pseudo-CLEC interfaces to Qwest OSS did not exist. MCI WorldCom (WorldCom) agreed to enter repair orders through its EB-TA interface on the Pseudo-CLEC’s behalf.

37. Three CLECs participated in the test to provide the supporting activities and or facilities required during the test that could not be provided by the Pseudo-CLEC arrangement. AT&T provided assistance with UNE-L and LNP provisioning and testing. WorldCom supported the submission and data collection of trouble tickets via Electronic Bonding – Trouble Administration (“EB-TA”) on Pseudo-CLEC accounts. COVAD entered CGE&Y test orders for line sharing, and provisioned and tested Digital Subscriber Line (“DSL”) on the installed lines.

38. Testing encompassed various order types associated with three primary modes of CLEC entry: resale, unbundled network elements, and number portability. CGE&Y and HP performed pre-ordering, ordering, provisioning, maintenance and repair, and billing transactions to evaluate the functional capabilities of Qwest’s OSS and whether competing carriers receive a level of service comparable to Qwest’s retail service. Testing was performed for specific product types including resale (with parity tests against the retail equivalents), UNE-P, number portability, and UNE-L (with and

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<sup>7</sup> Electronic Bonding – Trouble Administration, a Qwest interface used for submitting maintenance and repair requests.

without number portability). Testing included both residence and business orders for the following situations: "new," "conversion as is," "conversion as specified," "partial migrations," "change," "supplementals," "disconnect," "cancel," "suspend," and "restore" – each relevant to specific product scenarios that were being tested. Consistent with Qwest's documented business rules and specifications, the OSS were expected to generate acknowledgments, error rejections, Firm Order Confirmations (FOCs), Service Order Completions (SOCs) and jeopardy notifications to the CLECs.

39. A unique feature of the Arizona test was its utilization of Friendlies, or actual volunteers to function as end-users. The Friendlies were recruited and managed by CGE&Y to participate in Functionality Testing. Friendlies provided the physical locations to install test lines and performed specific test calls as directed by CGE&Y. Friendlies further enhanced test efforts by providing "real-life" customer input.<sup>8</sup> Friendlies received packets of information from the Test Administrator detailing the types of transactions the Friendly would be required to originate, the dates required, and any documentation they are required to create to document their test calls. The Friendlies consisted mainly of employees and former employees of the companies that participated in the TAG.

40. The Arizona TAG developed the first comprehensive set of performance measurement indicators in the Qwest region. The performance measurement indicators were used to gauge Qwest's performance in the Third Party OSS Test and when looking at their available commercial data. The PID Version 6.3 consists of 46 measures, with a total of over 700 sub-measures on a disaggregated basis. The specific measures to be evaluated by CGE&Y during the course of the test are contained in Appendix C of the MTP. CGE&Y analyzed more than 200 performance measure disaggregations during the test.

41. Performance Measures fall into three broad categories: parity, benchmark, and report only.<sup>9</sup>

a. Parity measures compare performance that Qwest provides its competitors to that which Qwest provides to itself, its retail customers, or its affiliates. Parity measures require that the wholesale service being evaluated have an analogous retail service as the measurement standard.

b. Benchmarks define a "level of performance" for services provided to CLECs for which there is no equivalent retail service being offered by Qwest. Benchmarks are negotiated between the parties and established at a level that would enable an "efficient competitor" a meaningful opportunity to compete

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<sup>8</sup> Friendlies were used in Resale, Unbundled Network Element – Platform (UNE-P), Unbundled Network Element – Loop (UNE-L), UNE-L with Local Number Portability (LNP), and LNP tests.

<sup>9</sup> Specific performance data for use in calculating the performance measures as defined by the PID and specified in Appendix C of the MTP. The calculations were defined in the "Statistical Approach" portion, in Section 9 of the TSD.

with Qwest in the provisioning of telecommunications service. The benchmark becomes the standard for evaluating performance.

c. The "report-only" category is used for diagnostic purposes -- generally as backup or support for other performance measures. These include measures for which there are insufficient quantitative information, or for which a benchmark has not been established.

42. Performance measurement results derived from data gathered and analyzed during the Functionality Test were intended to assess Qwest's performance in providing parity service to the CLECs. These were in accordance with established Performance Indicator Definitions (PIDs) which are the means of reporting performance results to CLECs on a monthly basis. Arizona Service Performance Indicator Definition (PID) 6.3 defined the standards that Qwest was to meet in the Functionality Test (FT) for compliance with Section 271.<sup>10</sup>

43. A statistical performance measure analysis was designed; test orders were executed by the Pseudo-CLEC; Qwest provided ad hoc data for the FT phase; and FT output were provided to the TA by the Pseudo-CLEC.

44. Following the OSS Test, test results were utilized in data reconciliation and validation that contrasted Qwest and Pseudo-CLEC data. In addition, another third party test in other states by Liberty Consulting correlated information provided by the participating CLECs with Qwest's reporting of performance results under the measures defined in the Performance Indicator Definitions (PIDs).

#### **b. SIGNIFICANT TEST PROCESSES**

45. Guidelines and assumptions established by the ACC and the Test Administrator underlying the OSS Test program were as follows:

a. CGE&Y, as the Third Party TA, provided day-to-day supervision of the test program, validated test results, and was responsible for evaluating test results, a final evaluation as input to the ACC, and preparation of interim and final reports.

b. The TA maintained a Master Issues Log of all OSS testing issues that were submitted or presented for resolution by any TAG member or participant. Each issue was assigned a unique identification code. The Master Issues Log recorded the matter or category to which the issue was related; any applicable measurement identification code; status of the issue; an issue description; the

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<sup>10</sup> Prior to this phase of the FT, Qwest's performance measurement reporting process had been extensively and thoroughly audited. This encompassed Qwest's methods and procedures for gathering, calculating, reporting and applying PID-related data. The results of this audit are discussed in the Performance Measures Audit section of this report.

issue originator; date the issue was opened; due date for action; "action owner;" and date the issue was closed.

- c. The TA was charged with maintaining the highest degree of 'blindness' as was practical, to maintain impartiality and objectivity. Neither CGE&Y nor HP had a reporting relationship to Qwest. Pursuant to their contracts, both CGE&Y and HP reported directly to the ACC.

46 The TAG process was a critical component of the OSS test. The TAG process provided the structure necessary for the highest degree of openness and collaboration. The major aspects of the TAG process are described below:

- a. Staff, with input from the TAG, defined TAG operating procedures, including scope of involvement, how to place items on TAG meeting agendas, dispute resolution, distribution of information, frequency of meetings and other matters.
- b. The TAG strived to resolve issues by consensus. When it was determined that consensus could not be reached on a particular issue, it was declared an impasse issue. Staff was charged with resolving all of the TAG's impasse issues.
- c. The TAG process allowed the TA and Pseudo-CLEC to advise the TAG members of any issues they encountered through the course of the test. It also allowed the CLECs and Qwest to pose test related questions to each other, Staff, the TA, or the Pseudo-CLEC.
- d. The TA was responsible for administering the TAG process. This included tracking issues to ensure nothing fell through the cracks, taking minutes at the TAG meetings, maintaining TAG contact lists, etc.

47. Appendix F of the MTP contained the "Openness" guidelines which were put into place by the ACC Staff to ensure that the testing process would remain completely open and all parties would be given every opportunity to participate in the test, review and analyze results in an open fashion and raise issues during each phase of the test. Any decisions made regarding the test were as a rule done through a collaborative process with TAG input. As part of this process, both CGE&Y and HP were required to record all of their contacts with Qwest and the topic of discussion in what became known as the "Incidental Contacts Reports" which were published on a monthly basis by both CGE&Y and HP. All meetings, including executive sessions, between CGE&Y and HP and Qwest, were noticed to all TAG members.

48. Each party had their own defined role in the testing effort. Qwest's supported the testing effort in the following ways:

a. Assumed responsibility for the installation and cost of the required connectivity facilities (including T1s) up to the interconnection demarcation point with the Pseudo-CLEC.

b. Provided subject matter experts (SMEs) to assist in test definition, root-cause analysis, and other tasks necessitating in-depth knowledge of and experience with Qwest's OSS, as well as associated operations methods and procedures.

c. Established lines for Friendly end-user accounts (e.g., involved with "retail to CLEC conversion") prior to the start of the test and the initiation of transactions.

d. Established pseudo-accounts necessary for the Capacity and Functionality Tests.

49. The role of the CLECs was defined in the MTP as follows:

- a. Provide input to the final MTP through the TAG
- b. Provide input to the test specifications
- c. Provide input to the Test execution plans
- d. Provide for Test execution
- e. Provide Test support and SMEs as necessary to the Test Administrator

50. A "military style" testing process with a "test until you pass"<sup>11</sup> philosophy was adopted, incorporating a "pass/fail mechanism" that was intended to impose a clear-cut assessment of achievement and results. In this context, a series of Incident Work Orders (IWOs) were created by the TA to resolve "test exceptions" when an interface, system or process evaluated by the TA was either "suspect" or did not meet objective criteria, standards or expectations established in the MTP or TSD. The process of IWO creation was triggered either during the course of the testing process as problems were encountered, or "off-line" as problems were discovered during the course of cross checks and qualitative reviews. IWOs were distributed to all TAG members for review and comment.

51. CGE&Y assigned one of three "severity levels" to each IWO based on the experience at the time the incident occurred. Level One IWOs documented the least severe deficiencies and were akin to an "observation." Level Two IWOs identified more severe problems. Level Three IWOs addressed problems that were so severe that the OSS test would not continue until they were resolved. Retesting was potentially required to close any IWO. CGE&Y assigned a tracking number and severity level to each IWO and forwarded the IWO to Qwest for issue resolution. Qwest was required to respond to all IWOs within two working days. Qwest's response included their understanding of the incident and their proposed fix. The TA evaluated Qwest's responses thoroughly and determined whether the IWO could be closed based solely on Qwest's response, whether

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<sup>11</sup> Unless a TAG-level decision had been made not to test further.

retesting was required to verify that Qwest's proposed fix was adequate, or whether further discussion was necessary.

52. All parties were allowed an opportunity to comment on Qwest's response and CGE&Y's evaluation. On some IWOs there was quite a bit of "back and forth communication" between the TA, Qwest and the CLECs. This entire process was open to the CLECs who were free to (and frequently did) comment on and ask questions about each IWO. Once CGE&Y verified that the issue identified in the IWO was satisfactorily addressed by Qwest, a Performance Acceptance Certificate (PAC) was distributed to the parties and the IWO was closed. Disagreements were aired at TAG meetings and if not resolved generally went to impasse for ACC Staff resolution. Approximately 230 IWOs were issued during the OSS Test, not including IWOs generating from the PMA. This process is highlighted in Exhibit 2-2.

53. The comprehensive set of 360 IWOs (including PMA IWOs) created during the course of the test addressed the range of issues raised in the testing process. Of the 232 IWOs formulated in the OSS Tests, 184 IWOs were resolved and ultimately closed out. (An additional 128 IWOs were created in conjunction with the Performance Measurements Audit.) The remaining 48 OSS Test IWOs were withdrawn or the Test Administrator ascertained that no action was required. Closure of all IWOs was a prerequisite for completion of the OSS Test program.

54. A summary of the IWOs by Test and by category is shown in the following Figure:

| Test                    | OSS Improvements Initiated | System Tables | Training Updates | Procedure | Metrics | Documentation | TOTAL |
|-------------------------|----------------------------|---------------|------------------|-----------|---------|---------------|-------|
| Functionality           | 44                         | 8             | 22               | 28        | 28      | 9             | 139   |
| Retail Parity           | 0                          | 0             | 3                | 3         | 0       | 7             | 13    |
| Capacity                | 3                          | 0             | 0                | 0         | 0       | 0             | 3     |
| Relationship Management | 1                          | 0             | 7                | 7         | 0       | 14            | 29    |
| TOTAL                   | 48                         | 8             | 32               | 38        | 28      | 30            | 184   |

**Figure 1-2 – Number of Incident Work Orders By Test and Category**

55. The IWO process also allowed all of Qwest systems or process deficiencies their root cause, and their fixes, to be thoroughly recorded and documented. A breakdown of the OSS deficiencies that were resolved or OSS system and process improvements implemented during the course of the OSS Test program is as follows:

OSS Improvements Implemented – A total of 48 IWOs involving software OSS upgrades were implemented, verified and closed. In due course, problem discovery, diagnosis, and resolution were systematically pursued until end-to-end system performance could be verified. Staff believes that Qwest's OSS are substantially improved as a result of this process.

OSS Databases Modified – A total of eight IWOs involving changes to various system tables -- repositories of data accessed by OSS software -- were implemented.<sup>12</sup>

OSS Training Instituted – A total of 32 IWOs were resolved through training of Qwest and/or CLEC staff. These events were triggered by “human error,” in which case OSS-related problems were traced to misinterpretation of instructions or inputting incorrect data by Operations personnel.

OSS Procedures Modified – A total of 38 IWOs were addressed by instituting changes to Operations procedures. These encompass process improvements, enhanced tracking and data reconciliation, adjusted time intervals, creation of SATE, increased access via Qwest’s websites, etc.

OSS Performance Measures Realigned – A total of 28 IWOs were resolved through rationalization of metrics, all associated with Functionality Tests. This encompassed realignment of measurements, correcting calculations, establishing suitable benchmarks, changing PIDs, increasing reliance on commercial data, and standardizing notifications and response times.

OSS Documentation Modified – A total of 30 IWOs were closed through improvements to Qwest’s documentation. Changes to documentation included upgrades to System Administration, User and Implementation Guides, incorporation of information from the Manual Interfaces on websites; improvements to reports and elimination of inconsistencies in published processes; introduction of user-friendly formats and enhancements to Product Catalogs.

Accompanying Systems Upgrades - In conjunction with IWO-driven changes, improvements were made to Performance Measurements, change management, and stand alone testing to affect comprehensive OSS enhancements.

c. **OVERVIEW OF QWEST SYSTEM ARCHITECTURE**

56. Qwest systems and databases used by CLECs are described in Appendix A. Qwest OSS and associated architectures and interfaces that directly effect the CLECs are summarized in the following table:

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<sup>12</sup> Qwest “back office” systems do not necessarily share databases, a problem common to telecom, and other large corporations and government agencies. Several database consolidations and other improvements were implemented.



- Interconnect Mediated Access (IMA) gateway is an “architecture” that enables CLECs to access Qwest’s back-end systems while preserving the integrity and security of these systems.
- IMA – EDI Electronic Data Interface (EDI) is an international standard for the interchange of business data. It enables CLECs to design their own “front-end systems” to capture preordering, ordering and provisioning information and provide translations to accommodate data elements and transactions defined by Qwest.
- IMA- Graphical User Interface (GUI) is a proprietary Qwest system designed by Qwest for the express purpose of providing CLECs an additional means of accessing Qwest’s systems. The IMA-GUI allows CLECs to access Qwest’s OSS through a normal internet connection without the need for them to develop their own front end systems.
- Electronic Bonding-Trouble Administration (EB-TA) is a gateway interface with associated programming and business rules that provides CLECs the means to design their own Graphical User Interfaces (GUIs) for conducting maintenance and repair activities with Qwest.
- Customer Electronic Maintenance & Repair (CEMR) is an architecture for submitting maintenance and repair orders. CEMR is a proprietary web-based GUI application designed by Qwest.<sup>13</sup>
- Customer Records Information System (CRIS) and Integrated Access Billing System (IABS) are Qwest billing architectures.

**Figure 2-1 - Primary OSS and Interfaces Impacting CLEC Interactions With Qwest**

57. A schematic diagram is provided in Figure 2-2, on the following page, that depicts the IMA provided by Qwest. Under this arrangement:

- a. CLEC OSS or workstations access Qwest gateways through a security firewall.
- b. CLECs communicate with a Qwest “human-to-computer” interface and/or a “computer-to-computer” interface for transmitting and receiving information.

58. Once a transaction is received by the Qwest gateway, a set of business rules is applied to determine how to process the request. To obtain information from Qwest’s OSS or pass information through them, the OSS “Access Layer” communicated with the downstream OSS to send or retrieve data.

59. Regardless of whether a transaction is received by the Qwest gateway by way of the IMA-GUI or a CLEC-designed EDI, it is processed by means of the same set of business rules and travels through the same OSS Access Layer to reach the downstream OSS.

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<sup>13</sup> EB-TA for Maintenance & Repair was supplanted by CEMR, which was included in the Functionality Test.

a. If the transaction involves the submission of a LSR, the LSR is placed in the Common IMA database regardless of whether it was transmitted through the IMA gateway or the EDI interface. This database is updated with the status of the LSR as the Interconnect Service Center processes it.

b. If a transaction involves a submission of a trouble report or any other trouble report request, the transaction is processed through the OSS Access Layer and routed to the appropriate repair OSS.

c. When an end-user customer's account involves resale by a CLEC, the resulting service order is updated, and the account adjusted to reflect that change.

60. Billing interfaces and components that produce usage and monthly bill information are described in Figure 2-3, on the following page. Qwest's Billing Systems include:

Billing Architectures - As a CLEC's end-user customers make calls, information is transmitted from Qwest's automated message accounting system to the appropriate billing system, where it can be associated with the CLEC's wholesale account. These usage data are in turn forwarded to the CLEC in a "daily usage file" (DUF) on a daily basis. This is further classified in Access DUF (ADUF) and Originating DUF (ODUF) categories.<sup>14</sup>

- The CLEC uses the DUF file to create bills for its end-user customers reflecting the use of the network. UNE-P CLECs also bill interexchange carriers ("IXCs") for access and egress services by means of the ADUF records.
- In parallel, Qwest produces a "Billing Summary File" encompassing all recurring and non-recurring charges incurred by the CLECs as its wholesale customer. A bill is provided to the CLEC on a monthly basis, via an account management module, that captures usage and service order details associated with the specific CLEC's accounts.

IABS Architecture - IABS involves processing of Access Service Request trunk-side UNEs and interconnection services. An entry point is provided via an (ASR) submitted by the customer service representative. ASRs are directed to a service order-processing module. Both usage and service orders are subsequently sent to the account management module.

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<sup>14</sup> *Arizona §271 Performance Indicator Definitions (PID) Data Element Summary Report, January 18, 2002.*

Account Management Module Outputs - An EDI "resale file" is subsequently fed to an account management module. After usage and service order details are associated with accounts, the accounts are rated, and bills and customer service records (CSRs) are produced. Outputs for reciprocal compensation, interexchange meet-point billing, resale and UNEs are then provided to the CLECs.

**d. OTHER RELATED QWEST PROCESSES EVALUATED**

61. Other processes evaluated that were integral with the OSS Test, that are addressed in a separate supplemental report include:

Change Management Process (CMP) is Qwest's version of an industry process for receiving, tracking, prioritizing, and scheduling CLEC-requested changes to the various preordering, ordering, and maintenance and repair (M&R) interfaces available to them. The CMP planning process provides a forum for CLECs and Qwest to evaluate, prioritize and coordinate ongoing change requests, release notifications, systems release life cycles, and inter-company communiqués. During the OSS Testing, a CMP process redesign was undertaken by Qwest to provide more responsiveness to CLEC concerns. The Test Administrator also evaluated this redesigned process.

Stand Alone Test Environment (SATE) is essentially a simulated OSS that CLECs can use to practice submitting orders and pre-order queries. This process, known as interoperability testing, allows CLECs to use independent production account data to facilitate the development of OSS and Electronic Data Interchange systems that are required for implementing new Qwest software releases, and testing the compatibility of CLEC's own new software releases with Qwest's interfaces. At the outset of the OSS test no test environment was available for the CLECs; Qwest required interoperability testing to be done in a *production environment* (i.e., with *real* customer orders.) No other Regional Bell Operating Company (RBOC) had obtained Section 271 approval without the availability of a test environment in which CLECs could practice submitting orders in a nonproduction environment since performing interoperability tests in a production environment is a significant burden on the CLECs. Staff informed Qwest that in its opinion a test environment would need to be developed by Qwest and formally evaluated before Staff could consider their OSS to be satisfactory for Section 271 purposes. Hewlett-Packard (HP) was charged with evaluating the SATE that was eventually developed by Qwest.

**e. SUMMARY OF OSS TEST FINDINGS AND CONCLUSIONS**

62. CGE&Y's Final Report on Qwest's OSS is over 600 pages long and contains hundreds of pages of appendices.<sup>15</sup> In the Executive Summary of its OSS Test

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<sup>15</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002.

Final Report, CGE&Y provided highlights of results and findings of each test, and conclusions drawn. CGE&Y's findings are summarized briefly below.

**a. Functionality Test**

63. CGE&Y concluded that Qwest provides sufficient electronic functions and manual interfaces to allow competing carriers access to all of the necessary OSS functions in Arizona. This conclusion is supported by test activity; observations; performance results; and system, procedural and metric improvements that Qwest has made in response to IWOs generated during the Functionality Test. Qwest made hundreds of system, process, and documentation improvements as a direct result of the OSS, PMA and Data Reconciliation test efforts.

**b. Retail Parity Test**

64. In analyzing the results of Phase 1 and 2 of the RPE as well as the results of the reevaluation, CGE&Y concluded that the experience of a CLEC service representative using the various available OSS interfaces is substantially the same as that of a Qwest service representative performing similar activities using internal OSS interfaces. CGE&Y also concluded that Qwest provides CLECs with substantially the same access to its OSS for the purposes of initiating service requests and M&R trouble transactions. CGE&Y further concluded that the OSS access that Qwest provides to CLECs for the purposes of initiating service requests and M&R trouble transactions does not negatively impact the customer experience as any time differences observed between retail and wholesale would be transparent to a customer while communicating with the representative. These conclusions were based on a combination of qualitative, quantitative, and timeliness results, as well as observations and statistical analysis to determine the overall experience of a CLEC service representative as compared to a Qwest service representative performing similar activities.

**c. Capacity Test**

65. CGE&Y concluded that Qwest's OSS are capable of processing forecasted volumes up to 12 months in the future while maintaining a level of performance well within the established benchmarks. CGE&Y also concluded that for System Scalability, Qwest has well documented processes and procedures in place to maintain system capacity sufficient to meet projected future loads. Finally, CGE&Y concluded that for Staff Scalability, Qwest maintains adequate forecasting procedures to identify the need for additional work force within a sufficient time frame that allows for appropriate training and placement.

**d. Relationship Management Test**

66. CGE&Y's findings relative to Qwest's relationship and interactions with CLECs are as follows:

- a. Qwest's CLEC account establishment processes are sufficient. During the course of the evaluation, Qwest has continued its efforts to improve its processes and the quality of information available to the CLEC community related to account establishment.
- b. Qwest's current account management processes are sufficient, although the original processes appeared to require reinforcement and/or improvement based on the many negative comments received from CLECs on this subject. Throughout the course of the evaluation, CGE&Y was able to track improvements to many of these processes.
- c. Qwest's interface development process is sufficient. Feedback from CLECs was positive regarding the knowledge of the staff and the project management processes Qwest uses to manage individual CLEC development efforts.
- d. The online documentation available to CLECs is sufficient and has been vastly improved over the course of the Arizona Section 271 Test. CGE&Y finds that sufficient content exists, in a well organized manner, for a CLEC to find all information required to conduct business activities with Qwest. This information is being continuously refined, and in the future much of it will fall under the aegis of Qwest's CMP.
- e. A complete redesign of CICMP to a new Qwest CMP is in progress.<sup>16</sup> The new CMP is a collaborative process that is addressing many of the previously identified deficiencies. Qwest's revised CMP is the subject of a separate report.

**e. Performance Measurement Evaluation**

67. CGE&Y's audit of Qwest's performance measure systems and processes confirmed that these systems and processes were substantially in compliance with the requirements of the Arizona PID for the months included within the audit.<sup>17</sup> Generally, Qwest systems and processes provided for the reporting of performance measurement results as required by the PID. Except as noted below, the OSS performance measurement systems and processes were observed to be available and maintained so as to provide for complete, accurate and timely reporting of the results. The systems and processes were generally protected by adequate security controls, both physical and logical, and are maintained to assure their reliability and functionality.

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<sup>16</sup> Qwest Change Management Process Redesign Evaluation, March 25, 2002.

<sup>17</sup> Qwest Performance Measurements Audit: Final Report, December 21, 2001.

68. CGE&Y's Final Data Reconciliation Report and PID Data Element Summary Report provide added assurances that Qwest is reporting in compliance with the requirements of the Arizona PID.<sup>18</sup>

69. Liberty concluded on the basis of the reconciliation work done in Arizona that the information provided by CLECs did not demonstrate material inaccuracies in how Qwest reported its performance.

f. **SUMMARY OF STAFF'S OVERALL CONCLUSIONS AND RECOMMENDATIONS**

70. Staff has reviewed CGE&Y's work and the results thereof thoroughly, and considered CLEC and Qwest inputs offered in briefs and in test report workshops. Staff agrees with the findings of its Test Administrator in virtually all cases for the reasons discussed below. This is not to say that there were not many legitimate concerns raised during the test which needed to be addressed. However, due in part to the extensive nature and duration of the Qwest Arizona OSS test, and the interim workshop process, Staff and CGE&Y were able to address and resolve many of the parties' concerns early on in the process, through retesting or other means.

71. Qwest made many improvements based on deficiencies that CGE&Y identified during testing, which were documented in IWOs.<sup>19</sup> Qwest has corrected dozens of system problems and processing errors, and various process improvements have also been implemented. Qwest's overall documentation has improved dramatically, and their wholesale website (where CLECs get information) has been completely reengineered. The training program has been redesigned. A complete redesign of Qwest's CMP is in progress. Furthermore, as a result of the PMA, many PID improvements have been implemented.<sup>20</sup>

72. Nonetheless, Staff has the following recommendations that Qwest should be required implement. These recommendations, however, are not required to be implemented prior to receiving 271 approval, but should be agreed to by Qwest as a condition for granting 271 approval.

a. Qwest should assess system improvements for reducing the IMA-GUI input steps required by CLECs. This effort should be conducted in conjunction with other system changes.

b. Qwest should develop the means that would provide CLECs the ability to request ad-hoc data for performance measurement calculations for PIDs contained in the PAP. This would provide the most effective method for CLECs to review the performance results provided by Qwest.

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<sup>18</sup> *Functionality Test Results Comparison Report, Version 2, March 1, 2002; and Qwest Performance Measurements Audit: Final Report, December 21, 2001.*

<sup>19</sup> *Final Report of the Qwest OSS Test, Version 2, March 29, 2002, Appendix B.*

<sup>20</sup> *Arizona §271 Performance Indicator Definitions (PID) Data Element Summary Report, January 18, 2002 and 5.*

c. Qwest should test its Daily Usage File (DUF) provisioning to CLECs to ensure accurate and timely delivery of these records. This test should be conducted within 12 months and be conducted with Staff oversight.

d. The ACC should initiate a proceeding to develop and implement Wholesale Service Quality Standards.

e. The ACC should accept the recommendations of both CGE&Y and HP as discussed herein.

73. As discussed elsewhere in this Report, Staff is of the opinion that OSS Test requirements and objectives have been realized, and the comprehensive independent Third Party Test has been successfully executed within the parameters set forth in the MTP and TSD; and that Qwest meets FCC requirements in this regard.

74. In conjunction with IWO-driven changes, improvements were made to Performance Measurements/PIDs, change management, and stand alone testing to affect comprehensive OSS enhancements in the interests of the CLECs.<sup>21</sup> In Staff's opinion, resolution of these problems and incorporation of wide-ranging improvements during the course of the three-year program, has transformed Qwest's processes from many that were problematic and inadequate for Section 271 compliance, into a consistent set of processes which now fulfills the criteria for Section 271 relief. In addition to enhancements that have been demonstrated through quantitative measures, significant qualitative changes have been realized as well. Staff perceived Qwest's relationship with the CLECs at the outset of the OSS test as unresponsive, with decisions being made unilaterally by Qwest, and CLEC interests marginalized.

75. Staff is of the opinion that Qwest now provides the CLECs non-discriminatory access on a par with its own retail operations so that a knowledgeable competitor has a meaningful opportunity to compete. In this regard it should be noted that the rigorous military-style testing program, and successive rounds of re-testing that it entailed, have systematically addressed the concerns raised by the parties and enabled all material issues and concerns to be effectively resolved. It should be further noted that the OSS Test program was extended time and again until all significant issues were "closed out" to the satisfaction of the TAG.

76. Staff deems the OSS Test portion of Qwest's Section 271 initiative to be complete. Staff believes the record compiled during the course of the OSS Test program will demonstrate to the ACC, the DOJ and the FCC, an appropriate degree of Qwest's operational readiness, performance, and capacity to provide access to preordering, ordering, provisioning, repair and maintenance, and billing OSS functionality to CLECs in the State of Arizona. Staff anticipates that process improvements will continue, and

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<sup>21</sup> Arizona §271 Performance Indicator Definitions (PID) Data Element Summary Report, January 18, 2002; and Qwest Performance Measurements Audit: Final Report, December 21, 2001.

that follow-up requirements on selected issues (e.g., emerging services) can be suitably monitored and addressed through supplemental filings and prescribed escalation procedures.

77. Commercial data, provided as part of the OSS Test database reinforces Staff's opinion as to Qwest's compliance. This type of data reflects Qwest's actual performance in providing service to CLECs. Based on the "Results" data for the last twelve months through February 2002, Staff concludes that Qwest is providing excellent service to CLECs and is 271 compliant in this area. Staff acknowledges the significant improvement that Qwest has made in service delivery to CLECs.

## **C. DISCUSSION OF INDIVIDUAL OSS TEST FINDINGS AND RESULTS AND POSITIONS OF THE PARTIES AND RECOMMENDATIONS OF THE STAFF**

### **1. FUNCTIONALITY TEST**

#### **a. Test Objectives and Process**

78. The purpose of the Functionality Test (FT)<sup>22</sup> was to determine the extent to which Qwest's OSS provided operational functionality to the CLECs.<sup>23</sup> The primary objective of the FT was to verify the ability of the Pseudo-CLEC to submit LSRs to the Qwest OSS and have Qwest, in turn, successfully install the requested service or facilities in a timely fashion. End-to-end integration of pre-order and order data was evaluated.<sup>24</sup> This entailed tracking the progress of the LSRs through those systems; installing the service or facility; observing final order completion; verifying the establishment of billing records; and verifying the accuracy of those records against known usage. In some cases, it was necessary for participating CLECs to execute ASR test scenarios. A second principal objective of the FT was to certify the ability of a CLEC to access M&R systems using EB-TA and CEMR. In parallel, the Pseudo-CLEC accessed M&R systems using Qwest's IMA GUI.

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<sup>22</sup> The FT required extensive planning and coordination between CGE&Y and the other test participants. The Pseudo-CLEC and participating CLECs generated input LSR data (e.g., resale, UNE-P, UDIT, and UNE-L test cases, and Retail to Resale Conversion test cases). Friendly end-user accounts were established in conjunction with the CLEC test accounts. CLECs provided input to the test scenarios, test specifications and cases. Descriptions of the roles and responsibilities for the FT are provided in Exhibit 3-2. They reflect the extensive coordination and administration associated with the Test Friendlies, and the complementary roles of the Pseudo-CLEC and CLECs. Each of the five areas of the FT had an extensive set of entrance and exit criteria. FT phases included test planning, test preparation, test execution, test analysis and reporting. FT phases are described in Exhibit 3-3. Exhibit 3-3 also discusses the Performance Measurement Audit. All exit criteria had to be satisfied before the FT was deemed complete.

<sup>23</sup> A very detailed and comprehensive discussion of the FT, including all relevant findings and conclusions can be found in CGE&Y's Final Report at pp. 33 through 189.

<sup>24</sup> Comparisons of functions in the retail and resale environments were done in conjunction with the Retail Parity Evaluation.



79. In short, the test determined whether Qwest's OSS adequately performed preordering, ordering, provisioning, maintenance and repair, and billing functions using a set of predefined test scenarios. Details are provided in Exhibit 3-1. Tests utilized Qwest's production OSS and processes, including manual operations.

- a. Preordering is the process by which CLECs query Qwest databases to verify or obtain the information necessary to prepare and issue a valid LSR to retrieve information about the resources of Qwest.
- b. Ordering is the process that involves the creation, submission and acceptance of the CLEC's LSRs to Qwest's OSS interface.
- c. Provisioning consists of the processes that Qwest uses to install the service or facility ordered, or otherwise implement the CLEC order. It also includes all associated transmission, wiring, and equipment necessary to provide service to an end user.
- d. Billing is the process by which Qwest provides CLECs with wholesale bills, usage data and records for the services, network elements (e.g., loop) and features that are ordered and provisioned.
- e. Maintenance and Repair is the function whereby CLECs diagnose and troubleshoot customer-reported troubles, report troubles, open trouble tickets, inquire on the status of trouble tickets, and close trouble tickets.

80. The scope of the pre-order test was to review the following transactions:

- a. CSR Query allowing the CLEC to view an end-user's current service record
- b. Address Verification query
- c. Reserve Telephone Number (TN) function
- d. Service and Feature Availability query
- e. Appointment Scheduler Function
- f. Facility Availability query
- g. Loop Qualification query

The pre-order process also verified the appropriateness and timeliness of reject messages as well as a successful connection to the pre-order system.

81. The scope of the FT for ordering and provisioning activities encompassed the following:

- a. Testing of Qwest's interfaces and order entry systems to ensure the ability to receive LSRs

- b. Transmission of multiple order types<sup>25</sup> by the Pseudo-CLEC to Qwest<sup>26</sup>
- c. Qwest's transmission of acknowledgements, i.e., rejects, jeopardy notifications, FOCs, and SOC's
- d. Validation that each order was provisioned as specified in the order Processing of flow-through and non flow-through orders

82. The scope of the Maintenance and Repair evaluation was to determine the following:

- a. Whether Qwest's systems generated a timely and accurate trouble report
- b. If the Pseudo-CLEC or participating CLEC could perform a Mechanized Loop Test (MLT) for a reported trouble
- c. If the MLT provided the Pseudo-CLEC or participating CLEC the appropriate information
- d. Whether the Pseudo-CLEC or participating CLEC could obtain the status of a trouble ticket
- e. Whether Qwest notified the Pseudo-CLEC or participating CLEC of successful restoration of service after the service fault was identified and corrected
- f. Whether the Pseudo-CLEC or participating CLEC could retrieve a customer's trouble history, as applicable

The M&R evaluation focused on the following two primary interfaces available for CLEC Maintenance and Repair: Customer Electronic Maintenance & Repair ("CEMR") - a proprietary web-based GUI application designed by Qwest; and Electronic Bonding - Trouble Administration ("EB-TA") - a gateway interface with associated programming and business rules that allows CLECs to design their own GUIs for conducting M&R activities with Qwest.

83. The scope of the Billing test was to verify the following:

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<sup>25</sup> Business and residential orders were tested and testing encompassed New, Conversion 'As Is', Conversion 'As Specified', Partial Migrations, Change, Disconnect, Cancel, Suspend, and Restore activities. Test cases involved end-to-end processing, so that all functionalities between preordering and billing could be evaluated.

<sup>26</sup> The FT encompassed a defined number of inputs and set of scenarios. These scenarios involved specified types of orders and products, included for completeness within the scope of Section 271 testing. The FT also addressed special situations such as 911/E911 and Directory Assistance functions. Development of scenarios entailed: scenario definition, preparation of detailed test scripts, formulation of test cases involving different types and combinations of orders and products within a scenario, and performing additional test script iterations, as necessary to increase sample sizes. Development of FT scenarios is discussed in Appendix B. Test Cases included appropriate (the number of accounts, types of transactions, and test iterations) instances and iterations covering the order types and product types, as detailed in Appendix A of the TSD.

- a. The bills reflected what was actually ordered
- b. The bills contained accurate charges
- b. Rates were applied correctly
- c. Taxes and surcharges were assessed correctly
- d. Discounts and adjustments were performed correctly
- e. Prorated amounts were charged accurately according to the disconnect date
- f. Disconnects were processed and appeared accurately on the bill
- g. Daily Usage Files (DUF) were updated accurately

84. In addition, the FT generated data used in the statistical evaluation to determine whether Qwest met the performance measurements defined in the Arizona PID, Version 6.3, as required in Appendix C of the MTP.

85. The FT encompassed all OSS functions associated with resale, UNE-P, UNE-Loop, UNE-Loop with Number Portability, and Number Portability. The scenarios tested were designed to replicate a mix of resale and Unbundled Network Elements (UNE) order activity for a start-up CLEC in the Qwest Arizona serving area. The Arizona test was unique in that rather than submitting all order types in one batch, a mix of resale and UNE orders were submitted which more closely matched what actually occurs in the real world.

86. In total, 1,567 orders were issued.<sup>27</sup> The specific "products" associated with the various testing scenarios are provided in Exhibit 3-6. This Exhibit illustrates the extensive breakdown of orders within each scenario. Of note are the practical limitations encountered in obtaining adequate samples within some product strata, in spite of expanding the number of orders placed by over 300. In cases where only a minimal sample population was obtained, each case was scrutinized in even greater detail to ensure the integrity of the sample.

87. In addition, the TAG agreed that CGE&Y should evaluate the following "Emerging Services": Enhanced Extended Loop ("EEL"), Unbundled Dedicated Interoffice Transport ("UDIT"), Unbundled Sub-Loop, Unbundled Dark Fiber, Line Sharing and Line Splitting. Many of these tests consisted largely of documentation reviews since no CLEC in the Qwest region was ordering any of these wholesale service products at the time. Procedures that CLECs would use to order Qwest Emerging Services were evaluated based upon documentation and procedures at the "Qwest Wholesale Services" web-site.

88. Since definitive evaluations based on Transaction Tests could not be made within the OSS Test Plan time frame,<sup>28</sup> the results of the document review were deemed

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<sup>27</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002.

<sup>28</sup> As a result, if selected OSS tests for emerging services were required, these would be completed pursuant to the core test program.

to be satisfactory. The TA's evaluation of procedures included all of Qwest's ordering and other related documentation for its Emerging Services.

**b. CGE&Y FT Test Results**

89. During the course of the FT, documentation, process, training and system issues were encountered. These were addressed through the generation of IWOs, which were all closed out.<sup>29</sup> A total of 139 IWOs were processed in the FT. These were associated with OSS improvement (44), system tables (8), training updates (22), procedural changes (28), changes to metric (28) and documentation improvements (9).

90. From that point FT testing focused on meeting established PID criteria. The set of 29 PIDs evaluated in the FT is shown in Exhibit 3-4. The PIDs covered the gamut of functions deemed necessary by the CLECs to achieve "functional equivalency" with Qwest. Each set of PIDs also had sub-measures or disaggregations that were also evaluated.<sup>30</sup>

91. Results of the FT and related performance measures are enumerated in Exhibit 3-7. In summary, it was determined that:

- a. OSS systems provide functions necessary for CLECs to provide customer service.
- b. Functional capabilities include issuing and completing service orders, providing maintenance and repair services, and billing customers. This was established for the full scope of products tested.

92. Key results are highlighted and implications for computation of the PIDs are noted. Results indicate that the functionality was achieved. Exceptions are noted in Exhibit 3-7. In these cases IWOs were issued, corrections implemented and IWOs were subsequently closed out. Limitations imposed on the PIDs are cited, and the ramifications are considered in subsequent discussion of PIDs results. No limitations or ramifications were deemed material.

93. Findings for Emerging Services are provided in Exhibit 3-8. 94.

94. Comprehensive FT performance results, upon which FT success is based, are provided in Exhibit 3-9, and summarized in the following paragraphs. The

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<sup>29</sup> *Final Report of the Qwest OSS Test, Version 2, March 29, 2002, February 2, 2002.*

<sup>30</sup> FT scenarios were structured to obtain PID results within specified statistical confidence levels. The number of tests conducted was intended to be sufficient to achieve these statistical confidence levels within each "strata" or "cell" to be evaluated. When the various combinations and permutations of services to be provided and conditions were taken into account, 1,267 scenarios were planned to be run. The breakdown of scenarios by service type and orders planned is shown in Exhibit 3-5. This reflects the scale and scope of the planned test.

description of each measure is provided, together with principal findings reflected in CGE&Y's Final OSS Test Report. Corrections based on CGE&Y's FT Results Comparison Report are incorporated. This provides a comparison of results obtained using Pseudo-CLEC's data with results achieved using Qwest's ad hoc data, and is a means of validating source data used to provide monthly performance measure results.

95. Qwest performance measurements for wholesale customers was determined to be on a par with performance measurements for retail customers. In cases where Pseudo-CLEC data was inconclusive, analysis was augmented by aggregate CLEC data.

96. Results for 221 individual performance measurement "product disaggregations" were obtained, enabling detailed breakdowns of interest to the CLECs to be scrutinized.<sup>31</sup> These included preorder, order, provisioning, maintenance and repair, and billing classifications, as follows:

a. Fifty-five disaggregations addressed pre-order related activities including the flow-through percentage, percentage and timeliness of rejection notices, FOC timeliness, work and billing completion notification timeliness, jeopardy intervals and timeliness. These disaggregations were compared with "parity" or "benchmark" standards. Pseudo-CLEC results equaled Qwest results or met the benchmark for all but three disaggregations; these were: manually returned rejection notices submitted via EDI, resale aggregate FOCs received via EDI and returned manually; and timely UNE-P jeopardy notifications; none of which were material

b. Eighty-seven individual product disaggregations related to ordering and provisioning, including the percentage of installation commitments met, the average installation interval, new installation quality, average "delayed days," coordinated hot cut interval, and the percentage of coordinated hot cuts completed on time. When compared with parity or benchmark standards, Pseudo-CLEC results equaled Qwest results or met the benchmark for all but nine disaggregations; specifically dispatched and non-dispatched residential and "designed" ISDN BRS installation commitments met, installation intervals for dispatched business, non-dispatched Centrex, ISDN BRS, PBX, and UNE-P, and designed ISDN BRS installations; none of which were material.

c. Seventy-five individual product disaggregations related to maintenance and repair. These encompassed the percentage of out-of-service troubles cleared within 24 hours, the percentage of all troubles cleared within 48 hours, the percentage of "designed troubles" cleared within four hours, the mean time to repair, the repair repeat report rate, the trouble rate, the percentage of repair appointments met, and the percentage of customer related trouble reports. When

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<sup>31</sup> Functionality Test Results Comparison Report, Version 2, March 1, 2002; Final Report of the Qwest OSS Test, Version 2, March 29, 2002; and Qwest Performance Measurements Audit: Final Report, December 21, 2001.

compared with parity or benchmark standards, it was determined that Pseudo-CLEC results met the benchmark for all but four disaggregations; specifically non-dispatched UNE-P out-of-service troubles cleared within 24 hours, non-dispatched UNE-P mean time to restore, and dispatched and non-dispatched UNE-P repair appointments met; none of which were material.

d. Four individual product disaggregations related to billing, including the time to provide recorded usage records, invoices delivered within 10 days, bill accuracy, and bill completeness. When compared with parity or benchmark standards, it was determined that Pseudo-CLEC results equaled Qwest results or met the benchmark for all but a single disaggregation; specifically, invoices delivered within 10 days. This single case was not material.

97. In all cases IWOs were issued to rectify performance shortcomings. It was determined that Qwest had subsequently instituted corrective measures to address all of these issues and/or performance had improved to benchmark or parity during the course of the retest.

c. **Position of the Parties**

1. **The CLECS**

98. CLECs contend that the TA failed to conduct the FT and supporting analysis as was required, and came to conclusions that were not supported with sufficient facts. CLECs argue that the TA did not perform the FT as the MTP and TSD required and assert that:

“In case after case the TA ignored controlling documents and made no finding because it had conducted no analyses or testing. This was despite a clear requirement to conduct certain tests, to analyze test results, to issue reports on such tests and results, and to publish information about its testing.”<sup>32</sup>

99. Also, CLECs assert that conclusions the TA reached were not necessarily relevant to the Commission’s conclusion as to whether Qwest provides non-discriminatory access to its OSS.

100. Specific instances cited by the CLECs included the following:<sup>33</sup>

a. **PO-1 Evaluation** – CLECs contend that, despite the requirement to do so, TA did not provide an evaluation of Qwest’s preordering system as to “response times,” measured in PO-1.

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<sup>32</sup> AT&T’s Comments on Draft Final Report, January 18, 2002, page 47.

<sup>33</sup> AT&T’s Comments on Draft Final Report, January 18, 2002; and WorldCom, Inc.’s Comments on Final Reports of Qwest’s OSS Test, January 18, 2001.

b. **Evaluation of Preorder/Order Integration** – CLECs contend that the TA did not evaluate Qwest's EDI interfaces for integration quality, despite the MTP and TSD requirement to do so. Integration quality of pre-order and order data was to be evaluated during the FT, which was not done.

c. **Conduct of Billing Tests** – CLECs contend that TA failed to conduct billing tests required by the MTP and TSD. They argue that the TA performed an incomplete evaluation of the Daily Usage Files ("DUF") that provide the details of calls made by the Friendlies on the lines established by the Pseudo-CLEC. CLECs assert the TA did not evaluate the form, format and content of Qwest's DUF against Qwest's specifications to determine whether Qwest's electronic records conform to the documented specifications for DUF transactions. As a result, there were no findings as to whether a CLEC can rely on Qwest's documentation to develop and implement a system to validate DUF provisioning by Qwest.

e. **Provisioning Errors** – CLECs assert that the TA under-reported provisioning errors made by Qwest in the implementation of Pseudo-CLEC LSRs, and did not report all trouble reports in implementing Pseudo-CLEC services.

f. **Service Provisioning Failures** – CLECs cite "verification of provisioning" as a critical component in the tests and assert that the TA did not utilize the service validation methodology required by the TSD. The TSD provides that the TA will access Qwest's switch and compare feature/functionality via the IMA-GUI "Maintenance and Repair (M&R) - Feature Availability" function and compare switch data to the LSR to validate the accuracy of provisioning.

g. **Time Lags in Issuing Subsequent LSRs** – CLECs claim they cannot issue subsequent LSRs until Qwest's customer service records are updated to reflect Qwest's processing of the original request. Specifically, if a CLEC end-user were to make a request to augment their new services immediately after the initial migration order has been processed (e.g., add features, change directory listings, or request additional lines to be installed) the CLEC could not format an LSR for the customer until a new Customer Code had been obtained from Qwest.

h. **Recalculation of Qwest-Reported Results Using Pseudo-CLEC Data** – CLECs cite the MTP as imposing a series of requirements for the TA to "independently calculate Qwest's performance results so as to verify that Qwest's reporting is accurate and complete." CLECs state that TA was unable to comply with these requirements for a variety of reasons, not the least of which is the absence of Pseudo-CLEC data that is required for such recalculations. CLECs seek clarification as to the gaps between the "data that are required for recalculation" and "data that have been captured during the FT and Capacity Test."

i. **Relationship between Test and Retest Results** – CLEC's contend that TA's presentation of results from *re-testing* is inconsistent with its presentation of initial test results. CLECs suggest that, whereas *retesting* is to demonstrate that the original problem is fixed, similar analytical methods should have been applied and demonstrated.

j. **Basis for Parity Measures** – CLECs challenge the validity of data being used by the TA to declare parity. CLECs contend that, contrary to FT design, conclusions of parity were made less frequently on the basis of Pseudo-CLEC data than for commercial CLEC data. CLECs suggest that with respect to parity determination (rather than functionality verification) the advantages of third party testing appear not to have been attained.<sup>34</sup> CLECs conjecture that Pseudo-CLEC data, which should have the highest integrity, were generally in such low volumes that determinations had to be made using commercial CLEC data more often than anticipated. Further, CLECs observe that in 20 percent of the cases, no determination of parity was made because of insufficient data from either data source. CLECs express concern that the TA failed to take advantage of the Pseudo-CLEC resource by not achieving requisite sample sizes.

k. **Integrity of Pseudo-CLEC Results** – CLEC express concern that calculation of Pseudo-CLEC results using Qwest's ad hoc data are suspect "because Qwest's ad hoc data has been found to be improperly calculated by Liberty Consulting audits." CLECs contend that Liberty's Colorado and Nebraska findings have called into question the accuracy and reliability of Qwest ad hoc data. CLECs also note the possibility that other such findings and conclusions may be reached after Liberty has completed the analysis of Minnesota, Nebraska, Oregon, Utah and Washington results.

l. **Absence of Daily Logs** – CLECs assert that the TA's failure to maintain Daily Logs "has undermined the integrity of the entire FT." CLECs contend that the Daily Logs were designed to be the vehicle by which CLECs would be able to monitor the progress of testing in an efficient and non-intrusive manner. They argue that, the absence of the daily logs prevented them from analyzing the TA results data.

m. **Lack of Valid Audit Controls** – CLECs observe that "CGE&Y was tasked with not only executing the required order number and types, but also was required to have the ability to track the history of each order so that life cycles would be understood from pre-order through billing." CLECs assert there is no evidence in the FT section of the OSS Test Report or supporting documentation

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<sup>34</sup> Of the 133 cases, parity was purportedly based on the analysis of Pseudo-CLEC data in only 37 instances, and only twice was a parity conclusion based exclusively on Pseudo-CLEC retest data. In 52 cases, parity was purportedly determined using commercial CLEC data, and 8 more parity determinations are based primarily on commercial CLEC data collected during retest. In 27 cases, no final determination was made because of insufficient data to attain statistical significance. In 7 cases, a disparity result was never clearly resolved even after retesting.



that validates that CGE&Y employed such audit control procedures. CLECs contend evidence is provided that suggests, to the contrary, valid audit control mechanisms were not employed by CGE&Y, which has resulted in discrepancies that have not been adequately explained or documented. CLECs cite, as an example, that the target test range was established at approximately 1,620 to 1,890 tests, when only 1,567 tests were conducted.

**n. Inability to reconcile conclusions reached based on CGE&Y's supporting documentation.** – CLECs contend that the Final OSS Test Report has not provided evidence necessary to understand how CGE&Y was able to draw conclusions based solely on the evidence on hand.

## **2. Qwest's Position**

101. Qwest responded that CGE&Y satisfied the MTP and TSD requirements in performing the Functionality Test.<sup>35</sup> Qwest stated that the MTP vests solely in CGE&Y the responsibility for supervising the day-to-day execution of the test, and analyzing test results and reporting its evaluation of those results. The MTP requires that CGE&Y apply that experience and judgment in fulfilling its supervisory duties. CGE&Y conducted the test in a reasonable manner consistent with the TSD and MTP requirements and appropriately exercise its professional judgment as the Test Administrator.

102. Qwest dismissed the CLEC's arguments regarding the daily logs. Qwest states that the CLECs received the information on a delayed basis as a result of an agreement in the TAG. Moreover, Qwest pointed out that all of the databases that contained the detailed information that was summarized in the reports were available for CLEC review in CGE&Y's document control room. Qwest also notes that there was no requirement for CGE&Y to provide any particular content or format.

103. Qwest acknowledged that it experienced a problem with ADUF records initially, and that it identified and fixed the problem.<sup>36</sup> However, this resulted in the Pseudo-CLEC not receiving any ADUF records from Qwest until approximately August, 2001. CGE&Y committed to obtaining the ADUF files from HP, comparing those files to the call logs that detail the calls made during the test to generate usage and including its analysis in the final report. Qwest stated that this commitment will satisfy the MTP and TSD requirements.

104. Qwest dismissed the CLECs arguments that CGE&Y should also have tracked the status of LSRs through issuance of post-order queries.<sup>37</sup> In addition to tracking test order status through the notifiers, the Pseudo-CLEC received auto-pushed messages regarding the status of test orders. Qwest stated that it expended significant effort to implement the capability to provide proactively pushed messages. Qwest argued

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<sup>35</sup> Qwest's Post-Workshop Brief Regarding Functionality Test Issues, December 11, 2001, page 2.

<sup>36</sup> Ibid., December 11, 2001, pages 5-6; Workshop 10 Transcript, pages 76-105.

<sup>37</sup> Ibid., December 11, 2001, pages 6-7.

that the CLEC's claim that CGE&Y should also have tracked the status of LSRs through issuance of post-order queries would have constituted a third layer of tracking information that would have returned the same information as the notifiers and auto-pushed status messages.

105. With regard to preorder to order integration, Qwest noted that CGE&Y indicated that it evaluated the preorder to order integration quality on Qwest's graphical user interface by observing that minimal re-entry of data was required to successfully complete the order. Qwest also noted that HP was conducting an analysis that would evaluate at the data element level a CLEC's ability to integrate preorder and order data using Qwest's EDI interface.

106. Qwest argued that it provided SOC information in two ways through the status and/or proactive electronic messages and on the Loss and Completion Report. Qwest argued that CGE&Y clearly stated in its Performance Acceptance Certificate for IWO 1045 that it validated both of these delivery methods.

107. Finally, Qwest argued that WorldCom's argument that there was a "gap" in CGE&Y's billing analysis because it did not validate any debit adjustments was flawed. Qwest pointed out that the TSD contained no requirement that both debit and credit adjustments be verified.<sup>38</sup>

**e. Discussion and Staff Recommendations**

108. Staff agrees with its Test Administrator's findings and the conclusions regarding Qwest's performance in the Functionality Test. There were doubtless many problem areas and concerns identified by the CLECs at the interim Functionality Test workshop. However, at that time retesting had not yet been conducted. Many of the CLEC's concerns were resolved through additional retesting subsequently performed by CGE&Y.<sup>39</sup> Additionally, many of the CLEC's concerns that were exhaustively discussed at the interim Workshop, were subsequently addressed by CGE&Y and Staff.

109. Staff's responses to the specific CLEC concerns are as follows:

**a. PO-1 Evaluation** – Staff disagrees with the CLECs' position. It was agreed by all parties that the pre-order response times would be evaluated in the Capacity Test (CT). The TA evaluated response times in that test (See Section 5 of this report). The data reported in the FT in Table 2.1.4a of CGE&Y's report were obtained using an outdated Templar Interactive Agent (IA). The parties were aware that this IA did not meet benchmark response times precluding use of FT data to evaluate PO-1.

**b. Evaluation of Preorder/Order Integration** – Staff became aware in the Relationship Management Evaluation workshop that the pre-order to order

<sup>38</sup> Ibid. December 11, 2001, page 9.

<sup>39</sup> Final Report of the Qwest OSS Test, Version 2, March 239, 200;2; February 2, 2002, page 76.

integration analysis had not been performed. The TSD in Section 6.5.2.3 specifically required that the pre-order to order integration be evaluated. Staff concurs that this is of extreme importance to the CLECs in developing their EDI interface.

Staff requested that HP (the developer of the EDI interface for the test) perform this evaluation. The HP analysis was furnished to the parties in December 2001. In the "Final Report Workshop" in January the CLECs complained that the evaluation was performed on the older IMA release 6.0 which was based on a Local Service Ordering Guidelines – Version 3 (LSOG 3) standard. They wanted an evaluation of the new IMA release 9.0, which is based on the more current LSOG 5 standard. Staff concurred and asked HP to evaluate the newer IMA release and to specifically evaluate the ability to "parse" a Customer Service Record into an LSR. This report was completed and furnished to the CLECs.

HP's report analyzed the ability of a CLEC to integrate preorder to order transactions for the Qwest IMA-EDI system.<sup>40</sup> The analysis covered two major Qwest software releases and a combination of five products and three activities. HP concluded that for both releases, data definitions (i.e., form, format, content, usage and meaning) between preorder and order elements generally do not require translation or reconfiguration of the data elements when parsing preorder transactions into order transactions.

- HP determined that for software IMA Release 7.0 CLECs could utilize Qwest's EDI preorder transactions to automatically populate an order with some data manipulation. HP observed that Qwest is meeting the LSOG 3 industry standard for orders.
- HP observed the same findings for IMA Release 9.0. The report also found that a CSR can be parsed and automatically populate an LSR.

Staff believes that this HP report adequately addresses the CLECs concerns.

c. **Conduct of Billing Tests** – Staff concurred with the CLECs and requested that CGE&Y conduct a retest.<sup>41</sup> CGE&Y has, as a result, conducted an extensive supplemental billing analysis/evaluation to address this issue. IWOs were issued, problems resolved and all IWOs closed out.<sup>42</sup>

d. **Provisioning Errors** – Staff believes that the accuracy of Qwest's provisioning has been verified through the data reconciliation. Specifically:

- Of the 63 trouble tickets submitted via CEMR, 40 trouble tickets were planned and 23 trouble tickets were unplanned troubles. Of the 23

<sup>40</sup> Preorder to Order Integration Report, March 28, 2002.

<sup>41</sup> Supplemental DUF Evaluation, February 19, 2002.

<sup>42</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, page 91.

unplanned troubles, the customers identified 18 and 5 were identified during the UNE Loop testing phase. All but 7 were successfully accepted by CEMR.

- Seven test cases were rejected by CEMR for a variety of reasons, prompting issuance of three IWOs (AZIWO2101, AZIWO2102 and AZIWO2103) which were subsequently closed.

e. **Service Provisioning Failures** – Staff notes that CGE&Y contended it successfully achieved service validation by having Friendlies exercise these features to test operability.<sup>43</sup> CGE&Y retrieved and verified CSRs, and validated that the services and features ordered were accurately reflected on the bill.

Staff further understands that the requirement to utilize the IMA-GUI M&R Feature Availability function was satisfied during the DUF retest, which CGE&Y utilized in the manner described by the TSD to “access Qwest switches to verify provisioning.”<sup>44</sup> All test cases that were verified were correctly “translated” in the respective Qwest switches with features specified on the LSR.

Staff believes that the test process along with the DUF retest satisfies TSD requirements.

f. **Time Lags in Issuing Subsequent LSRs** – Staff notes that CGE&Y conducted a retest of this problem (per AZIWO 2060) and submitted 11 conversion orders to determine the interval for the Reseller Identification (RSID) to be posted to the CSR.<sup>45</sup> CGE&Y established that 8 of 11 CSRs (73%) were updated on the third day after the SOC date. The remaining three CSRs (27%) were updated on the fifth day after the SOC date. CGE&Y found that the CSR information was correctly updated on all 11 CSRs within the established 3-5-business days guideline, (the normal interval to update POTS) and subsequently closed this IWO.

In addition, CGE&Y validated Qwest’s published “work-around procedure,” used when a CLEC encounters this problem.<sup>46</sup> (This process is used by a CLEC in response to a “Not authorized to retrieve CSR” error.) CGE&Y also ascertained that error messages were incorporated in IMA, decreasing the time a CLEC would otherwise be required to spend investigating the cause of errors received when retrieving CSRs.

CGE&Y attests that CLECs can process subsequent change orders when following guidelines provided by Qwest, prior to the CSR update. Staff believes that this concern has been adequately addressed.

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<sup>43</sup> Ibid. pages 54-55.

<sup>44</sup> Ibid. page 55.

<sup>45</sup> Ibid. page 76.

<sup>46</sup> Ibid. page 384.

**g. Recalculation of Qwest-Reported Results Using Pseudo-CLEC Data –**

The Staff concurs with the CLECs that this issue is a major concern. One of the most important outcomes of the OSS test was verifying that Qwest-reported commercial performance data is accurate and can be relied upon. Staff has spent considerable time in conjunction with the TA ascertaining that Pseudo-CLEC data are utilized in the “data accuracy verification” process. To address the parties’ concern about the extent of the data mismatch, the TA prepared the “PID Data Element Summary” report.<sup>4748</sup>

The observed mismatch resulted from a limitation encountered in utilizing Pseudo-CLEC data to calculate PIDs, in that Qwest does not furnish CLECs with all of the disaggregated data elements that would be required. To preserve the element of “blindness,” the TA did not request any special daily performance reports from Qwest. To accomplish the requirement of using the Pseudo-CLEC data in verifying PID calculations the TA:

- Reconciled Pseudo-CLEC “actual data” with Qwest “ad-hoc data,” Qwest’s database used for calculating PIDs. (For example, this reconciliation matched Pseudo-CLEC LSRs with LSRs contained in the ad-hoc database). The results of this verification were provided in the TA’s “Data Reconciliation Report for the Functionality Test.”<sup>49</sup>
- The TA provided independent calculations of aggregated PID measures utilizing Pseudo-CLEC data. In this analysis, disaggregated data were “rolled up” to common levels of aggregation where a one-to-one correspondence between the Pseudo-CLEC and Qwest ad hoc data sets could be achieved. These calculation verified data elements within the LSRs, including, for example, application dates, due dates, completion dates, etc. The results from this effort are contained in the “Functionality Test Results Comparison Report.”<sup>50</sup>

**h. Relationship between Test and Retest Results –** Staff is of the opinion that the TA’s retesting approach was satisfactory. The retesting plans were submitted to the CLECs for their review and comment. The CLECs had every opportunity to critique retesting effort plans. The retesting was to target specific problem areas and not to redevelop statistical analysis utilized for the initial test. The staff believes the retesting demonstrated that the targeted problems were properly tested.

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<sup>47</sup> The extent of the effort of the TA is described in the “Performance Measurement Evaluation” Section of this report.

<sup>48</sup> Arizona §271 Performance Indicator Definitions (PID) Data Element Summary Report, January 18, 2002.

<sup>49</sup> Functionality Test Results Comparison Report, Version 2, March 1, 2002.

<sup>50</sup> Arizona §271 Performance Indicator Definitions (PID) Data Element Summary Report, January 8, 2002, page 55.

i. **Basis for Parity Measures** – Staff believes the TA has overcome this criticism in the Final Report. As described above, a significant effort was put into verifying that Qwest reported ad-hoc data were accurate. Based on the results of this verification the test results in the report were recalculated. These results, as reported in Functionality Test section of CGE&Y's Final OSS Report, should be accurate. More importantly, Qwest-reported commercial data have been audited and verified to be accurate. This provides assurance that service provided by Qwest to the CLECs is accurately reflected in Qwest Monthly Performance Report.

Staff strongly believes that audited commercial data are a better evaluation of Qwest performance than OSS test data, as commercial data reflect larger volumes and real world conditions.

j. **Integrity of Pseudo-CLEC Results** – Staff observes that, according to Liberty Consulting, information provided by CLECs for the state of Arizona “did not demonstrate that Qwest reports of its performance are materially inaccurate.”<sup>51</sup> Liberty found that Qwest did make some errors that affected performance results. “However, those errors were generally either at levels to be expected at the front end of the performance measurement process, where people must manually enter vast amounts of information; or appeared to a result of honest errors in judgment.” Liberty states that “The amount of these errors in relation to the total amount of information required for the performance measures did not exceed what Liberty considers to be expected levels, even under a carefully operated set of measurement activities. Moreover, there was no evidence that Qwest purposely took steps to make its performance figures appear better than they actually were. Generally, errors were not systemic, nor did they apply to a significant percentage of the performance measure results.”

Liberty conducted a study of similar Data Reconciliation Reports in the States of Colorado and Nebraska, which disclosed problems that impact Arizona as well.<sup>52</sup> Qwest asserted that all anomalies have been identified and corrective measures have been initiated, with the expectation that these would be closed in short order. Qwest provided explanations as to the circumstances surrounding these issues and has demonstrated that its data are materially correct.

k. **Absence of Daily Logs** – Staff disagrees with this complaint by the CLECs. The TA provided in the viewing room (and by CD if requested) a complete “cradle-to-grave” accounting of all of its order activities, which contained all data that would have been posted to daily logs. Staff is satisfied that these data provide the CLECs all they need for test result verification. Additionally, logs were provided to the CLECs, and CGE&Y made every effort to accommodate the CLEC requests as to form and content.

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<sup>51</sup> Report on Qwest Performance Measure Data Reconciliation for Arizona, December 3, 2002.

<sup>52</sup> Third Report on Qwest Performance Measure Data Reconciliation – Nebraska, January 28, 2002; and Liberty Data Reconciliation Update, February 2, 2002.

**l. Lack of Valid Audit Controls** – Staff noted that CGE&Y entered information in the Return Order Log spreadsheet, which provided cradle-to-grave tracking for all LSRs. In addition, matters related to “data accuracy assurance” were addressed across-the-board as a primary OSS Test objective. With documentation of the preceding items, furnished by CGE&Y, Staff is satisfied with audit controls employed by CGE&Y.

Further, Staff observes that CGE&Y conducted an additional 223 tests during the course of re-tests, bringing the total number of tests conducted to 1,790 – towards the high end of the target range. The total number of tests satisfactorily met the TSD projected test volumes. Staff is satisfied that the TA fulfilled TSD projected test volumes.

**m. Inability to reconcile conclusions reached based on CGE&Y's supporting documentation** – ACC Staff disagrees with this sweeping generalization. Rather this can be addressed only on a case by case basis to provide a purposeful response. CGE&Y's Final OSS Test Report provides closure on issues that were still being addressed during the course of interim reports, and the CLECs had adequate opportunities to scrutinize detailed results in viewing rooms and pose questions during the course of the workshops. Substantial discussion is provided in IWO Performance Acceptance Certificates, so specific conclusions are addressed in conjunction with closeout of each IWO.

110. In the preceding paragraphs, Staff has responded to each FT concern expressed by the CLECs. Staff is of the opinion that the collective impact of FT improvements enables the CLECs to derive full benefits of the functional capabilities which are intrinsic to Qwest's OSS. This contrasts with conditions encountered by the CLECs at outset of the FT, in which much of the underlying potential of the OSS was, in practical terms, denied as a result of the numerous aforementioned process-related deficiencies, which were subsequently cured.<sup>53</sup>

111. Staff believes that CGE&Y planned, implemented and reported on the FT in an appropriate manner. Staff also believes that CGE&Y's methods for data collection and analysis were appropriate, and that data utilized and reported on were accurate.

112. Staff also supports the following recommendations of the Test Administrator relative to the Functionality Test:<sup>54</sup>

- a. CGE&Y recommends that Qwest explore the inclusion of additional edits of CLEC LSRs, within the Business Process Layer (BPL) of the gateway systems, prior to issuance of a FOC. This recommendation

<sup>53</sup> Qwest's Post-Workshop Brief Regarding Functionality Test Issues, December 11, 2001; Functionality Test Results Comparison Report, Version 2, March 1, 2002; and AT&T's Brief on Functionality Test Summary Report, December 10, 2001 and 1.

<sup>54</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, pages 26-28.

suggests that increased edits in Qwest gateway OSS would likely result in lowered initial LSR rejection rates, improved CLEC order processing, and the reduction of rejects after a FOC. This issue was initially discussed in AZIWO2116, and Qwest has implemented improvements. (Recommendation No. 3)

b. CGE&Y recommends that, through the CMP, Qwest improve the timeliness of record updates from Qwest's provisioning systems to the various downstream OSS in regard to customer conversions wherever such improvements have not already been put in place. Delays in downstream record updates can potentially add additional steps to CLECs' business processes. This recommendation is based on AZIWO2060, which is discussed on page 76 of this report. (Recommendation No. 4)

c. CGE recommends that the CMP consider the following process improvements:

- Qwest provide the CLECs with a complete listing of the services and features on any CLEC-initiated order, as entered in Qwest's Service Order Processor (SOP). This recommendation should apply for any CLEC order type, whether flow-through or non-flow-through. This recap should include information such as USOCs, FIDs, Hunting Sequence, etc. This suggestion calls for the Service and Equipment (S&E) section of the Service Order to be returned to the CLEC as entered in the Qwest Sop. This is currently under evaluation by the CMP.
- Explore and develop an automated process that would allow CLECs to view the status of service orders initiated by Qwest on CLEC owned accounts. This recommendation suggests that CLECs be provided with the opportunity to view orders, determine the status of orders, and monitor the progress of those orders through the Qwest OSS so that CLECs can more effectively support the needs of their end users.



- Continue to improve the Service Interval Guide (SIG) to provide clearer and more detailed information for CLECs on disconnect intervals, and to make the information easier to locate on the Qwest wholesale website. (Recommendation No. 6).

d. CGE&Y recommends that Qwest update their Wholesale website with clear standards and business rules pertaining to CLECs use of the FOC. These standards/business rules should clearly articulate how a CLEC is to differentiate FOC, Jeopardy notice, Reject notices, and any/all other notifiers. CGE&Y also recommends that Qwest publish standard error-handling information and provide it to CLECs on the wholesale website in a table format. This would include more detailed information on Non-Fatal and Fatal errors, making the wholesale website a more detailed and complete reference point for CLECs. Although the Qwest White Paper "Firm Order Confirmation Evaluation Results," dated August 6, 2001 provides guidance, the continued development of reference material to assist the CLECs in distinguishing and preventing errors would benefit all parties. The issue of distinguishing error messages is also discussed in Appendix R of this [CGE&Y's] report, Arizona Section 271 Performance Indicator Definitions (PID) Data Elements Summary Reports, specifically in the HP Missing Functionality Data Elements Spreadsheet. (Recommendation No. 8).

113. In summary, Staff recommends that the ACC concur with and support the CGE&Y reported FT results, and CGE&Y's recommendations.

## **2. RETAIL PARITY EVALUATION**

### **a. Test Objectives and Process**

114. The purpose of the Retail Parity Evaluation (RPE) was to determine whether a CLEC representative, using a Qwest OSS interface, could provide a level of service and experience in substantially the same time and manner as the level of service and experience that a Qwest representative could provide using a Qwest standard interface.<sup>55</sup> In this regard, the Retail Parity Evaluation compared:

- a. The Qwest graphical user interface (GUI) and electronic data interface (EDI) provided to CLECs for processing pre-order inquiries, LSRs and repair requests, to
- b. The Qwest internal retail graphical user interface utilized by Qwest's Service Order Representatives.

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<sup>55</sup> A very detailed discussion of the RPE and CGE&Y's findings and conclusions are contained in CGE&Y's Final Report at pp. 190 through 260.

This involved determining if Qwest OSS, when accessed by the CLECs, collected and provided required information in substantially the same time and manner as information submitted and received internally by Qwest.

115. The RPE is unique to the Arizona OSS Test and was intended to:

- a. Establish whether the information received by the CLEC Service Representative from the Qwest OSS was comparable in quality and completeness to the information received internally by the Qwest Service Representative.
- b. Determine if the data entry experience of a CLEC Service Order Entry Operator was comparable in quality and required level of effort to that experienced by the Qwest Service Order Entry Operator.
- c. Compare the degree of integration of "pre-order" and "order" functions in retail to the degree of integration of resale interfaces.

116. The RPE involved flow-through of LSRs with "correctly entered" order information to ensure acceptance and presentation to back-end systems.<sup>56</sup> The degree to which correctly entered LSRs submitted by a CLEC "resale" Service Representative flowed through the Qwest OSS infrastructure, contrasted with correctly entered LSRs submitted by a Qwest "retail" Service Representative was a key element in determining whether parity was in fact achieved. The scope of the RPE is provided in the list of Success Criteria listed in Exhibit 4-1. These criteria reflect the wide range of measures that were considered by CGE&Y in judging whether or not parity has been achieved.

117. A specific set of Test Scenarios with Retail analogs was used for the Retail Parity Evaluation. These tests covered preordering, ordering, and maintenance and repair scenarios. In general, each CLEC Test Scenario had a corresponding Qwest retail scenario to conduct a functionality comparison.

118. The Retail Parity Evaluation was both a quantitative and qualitative test, with emphasis on "qualitative" aspects.

- a. It was "qualitative" in that the information available to a Qwest representative handling a customer was contrasted to that available to a CLEC representative, in terms of both "equivalency" and accuracy.<sup>57</sup>

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<sup>56</sup> Flow through in the context of these retail parity evaluations did not include testing of how well orders were provisioned or billed. Therefore, test cases for retail parity were cancelled before provisioning occurred.

<sup>57</sup> Quantitative differences associated with system response time would generally be small in comparison to an end-to-end transaction as a whole, and hence would not be material.

- B. It was "quantitative" in that it evaluated OSS response times on a comparative basis, with allowances for underlying differences in process. Some underlying differences were anticipated, but these differences were not to materially impact the effectiveness of the CLEC representative towards realization of success criteria.

119. The focus of the RPE was the "experience that the customer had" while on the line with a CLEC representative, in comparison to the experience of a customer while on the line with a Qwest representative. Once the order had been submitted it was only necessary to run the RPE through either the ordering process or through submission of a trouble report. As such, the RPE activities were cancelled before triggering the Service Order Processor (SOP).

- a. The RPE included standard pre-order and ordering functionality, as well as other information needed to address customer requirements, such as order status, escalations, and obtaining preferential/vanity numbers.
- b. Quantitative pre-order metrics encompassed telephone number (TN), feature validation, address validation, primary interexchange carrier/local primary interexchange carrier (PIC/LPIC), due date, and facility availability. Query times were measured and reported for all "Pre-Order" Test Cases and Pre-Order portions of all "Order" Test Cases.

120. Metrics were collected as detailed Test Cases and Qwest Service Representatives (for retail) and Pseudo-CLEC Service Representatives (for resale) executed Scripts. Qwest systems and databases used by the CLECs are described in Appendix A. RPE phases are discussed in Appendix C of this report.

121. Due to structural differences described in these Appendices, "complete parity" is not realizable.<sup>58</sup> At issue is the extent to which "virtual parity" from the customer's perception is achieved, hence the emphasis on the qualitative issues. Quantitative measures had nevertheless been explored to "ascertain the nature and extent of delays" and "put the issue to rest" if these structural difference were not material.

122. Section 2 of Appendix A of the TSD enumerates Test Scenarios employed in the RPE. These scenarios were used to create detailed Test Cases and subsequent orders and LSRs. The scenarios covered preorder and order processing, for "Resale New Connect" compared to "Retail New Connect," "Retail to Resale Conversion" compared to "Retail Win Back"; "Resale Change" compared to "Retail Change"; "Resale Suspend and Restore" compared to "Retail Suspend and Restore"; and various Resale Maintenance and Repair Activities (e.g., Reporting, Start Using, MLT) compared to equivalent Retail counterparts.

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<sup>58</sup> Master Plan for Testing Qwest's Operations Support System in Arizona, June 29, 2001, page 35 and Test Standards Document: CGE&Y Telecommunications 271 Test Standards, June 29, 2001, page 4-1.

123. Appropriate test volumes were established to ensure that the "comparison process" provided a reliable statistical sample of performance measurements for evaluating processes and outputs. As planned, the volumes required were a subset of those of the overall FT. The number of accounts, transactions, and test iterations were explicitly determined by the TA to ensure the adequacy of the test volumes.

124. The goal of the RPE was to evaluate resale transactions against the equivalent retail transactions. This effort entailed use of "Test Accounts," involving Friendlies. Basic account set-ups and locations were similar to provide the most accurate comparison. For example, a test that scheduled appointments for dispatch of an installation technician was designed to be equivalent for "retail" and "resale" customers. It was therefore desirable to service these accounts out of the same wire center with Friendly locations as geographically close to one another as possible.

125. Data are compiled in response to "CLEC resale" and "Qwest retail" events. Sufficient numbers of accounts were established and tested to reach the required sample size, thereby ensuring statistical soundness to the extent practical. Like the FT, the RPE was conducted in a "production environment."<sup>59</sup> Qwest participants (e.g., customer service representatives) who were actively involved with the tests, maintained the required level of 'blindness' by not knowing which accounts were actually "in production" as distinct from "production-like test accounts" employed in the RPE.

**b. CGE&Y RPE Test Results**

**1. Qualitative Measurement Results**

126. CGE&Y found that the RPE demonstrated that the quality and quantity of information obtained by CLECs through pre-order queries were substantially the same as that obtained by Qwest through similar queries; and that the overall experience in submitting an order was also substantially the same for both. Specific findings are presented in Exhibit 4-2.<sup>60</sup> Shown in the Exhibit are the broad scope of qualitative evaluations and the high level of parity with retail services "across the board." These qualitative analyses addressed: no unasked-for changes; comparability of time; pre-order integration, complex services; data presented on screens; facility availability; reserving large blocks of telephone numbers; service installation; expediting due dates; vanity telephone number; change pending order; query status of impending order; status of "working left-in" information; system availability; and edit and error checks.

127. The primary emphasis of the RPE, as delineated in the MTP, was the qualitative aspect of the test, which by its very nature is imprecise. Sound judgment and intuition are often the best measure for a "heuristic" type of analysis. Substantial qualitative data has been gathered during the RPE in this regard, as shown in Exhibit 4-2.

<sup>59</sup> Test Standards Document: CGE&Y Telecommunications 271 Test Standards, June 29, 2001, pages 9-1.

<sup>60</sup> Liberty Data Reconciliation Update, February 2, 2002, pages 19-20.

## 2. Quantitative Measurement Results

128. Resale and retail businesses use the same back-end systems to process queries and order transactions. The architecture was found by CGE&Y to be sound and reasonably consistent with other models used in the business-to-business and the third-party "trading partner" software industry. The IMA architecture that allows CLECs to access Qwest's back-end systems was determined to be appropriate in preserving the integrity and security of these systems. Factors influencing system relative response times between resale and retail are as follows:

a. Network Access Times – To put time delays in context, creation of an LSR would typically be in the range of from 20 to 30 minutes. However, in relative terms, differences – in seconds -- between resale and retail response times do occur. These are not attributable to quality of service-related factors, but are network access- related.<sup>61</sup>

b. Processing Time – Disparities in processing times between resale and retail queries were largely attributable to the topology of the respective networks involved.<sup>62</sup> The end-to-end topology of a CLEC's interface with Qwest OSS, would likely be significantly different than Qwest's internal interfaces. For example, CLECs that interface with Qwest's back-end systems and databases via IMA-GUI require additional system processes not found in Qwest's retail architecture. This results in additional time between transaction initiation and completion – which is in accordance with generally accepted industry practices.

c. Number of Process Steps – As anticipated, for all services tested, the average number of steps required was inherently greater for resale than for retail. (In this context, a "step" is defined as any progression in an overall process such as "clicking a button," "moving to a new screen," etc.)

### a. IMA-GUI Pre-order/Order

129. CGE&Y found that transactional delays associated with resale services relative to retail services are evident. Collectively, such delays in theory could occur multiple times during the course of an LSR or other end-user interaction. However,

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<sup>61</sup> Resale response times were 2.2 times longer than retail (an average of 30 seconds versus approximately 13 seconds, respectively). However, a 15-second response time differential was attributable entirely to "http" web-related timing delays. When web http timing delays are eliminated, resale and retail experiences were substantially similar. A remaining two-second differential was attributable to validation (security) query response times.

<sup>62</sup> Qwest retail Order Management Centers connect to Qwest's legacy OSS and associated databases via QwestNet (Qwest Intranet), a series of dedicated high- capacity trunks. CLECs with dedicated OSS access are connected to the same network, either through dedicated T-1, fractional T-1, or 56kbps dial-up. With the exception of the dial-up method, the medium by which connectivity is accomplished is identical.

CGE&Y also found that the transaction routing and database queries, internal to Qwest's firewall, account for some or virtually all of the time differential.<sup>63</sup>

130. CGE&Y found that although it may be possible for Qwest to make the mediation process for these interfaces even faster and more efficient, transactional delays over and above that of comparable retail systems are reasonable. By no means do such delays imply that CLECs do not have a meaningful opportunity to compete.<sup>64</sup>

131. CGE&Y reported that when these delays, of seconds, are considered in the context of end-to-end transaction (e.g., generation of an LSR) these quantitative differences tend to be de-minimus. On balance, the experiences of a resale representative performing pre-order query transactions were similar to that of a retail representative performing similar activities using the internal OSS interfaces of Qwest.<sup>65</sup>

**b. IMA-GUI Maintenance and Repair**

132. Unlike pre-order and order queries, M&R queries do not involve processing by the IMA systems. Rather, M&R queries are forwarded directly from the mediated access (MEDIACC) gateway for processing by Loop Maintenance Operations System (LMOS) and Work Force Administration (WFA). As such, there is greater similarity between the resale and retail M&R processes than for pre-order/order queries.

a. CGE&Y found that qualitative analysis determined that responses to resale and retail M&R queries provided comparable information.<sup>66</sup> Functionality provided to resale and retail was substantially the same for generation of trouble tickets, MLT, trouble history, and trouble ticket status.

b. CGE&Y found that the number of fields and steps was approximately the same or fewer for resale than for retail, except for the number of fields required to create a ticket (work order) for non-designed services (POTS, CTX, PBX).<sup>67</sup>

c. CGE&Y found that performing an MLT and obtaining a ticket's history took substantially longer (about 10 times as long). However, this was not material relative to the time associated with the M&R transaction.

**c. EDI Pre-Order/Order**

133. CGE&Y found that the quality and quantity of information obtained through EDI pre-order queries, and "the overall experience in submitting an order" was substantially the same as that obtained by Qwest through similar queries. The results of

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<sup>63</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, page 210.

<sup>64</sup> Ibid. page 198.

<sup>65</sup> Ibid. pages 19-20.

<sup>66</sup> Ibid. pages 235-241.

<sup>67</sup> Ibid. pages 227-228

specific evaluation tests conducted across all timeframes and geographic areas are as follows:<sup>68</sup>

- a. Test Cases experienced no changes to order original due date, reserved TN, or selected features as to acceptance by the SOP (retail), and receipt of a FOC (resale).
- b. Resale "Facility Availability" and Resale Appointment Scheduling queries produced substantially the same results as retail queries.
- d. The procedure to reserve large blocks of telephone numbers involved manual process for resale and retail.
- e. Test scripts were successfully conducted requesting due dates of 45 days from the date of order submission in both cases.

134. CGE&Y found that the ability to check the status of an order at any time through order completion was provided for resale and retail. Both systems provided error checks and indicators.

- a. "Working left-in" lines were appropriately designated in all cases.
- b. Hours of system availability were substantially the same.

**d. EB-TA Maintenance and Repair**

135. CGE&Y found that EB-TA M&R scenarios demonstrated comparability between resale and retail transactions as to information provided; functionality provided; MLT results received; trouble history provided; and trouble ticket status. The quality and quantity of information obtained, and the overall experience in submitting M&R transactions were substantially the same.

136. CGE&Y also found that based on the qualitative, quantitative, and timeliness measures:<sup>69</sup>

- a. The experience of a CLEC using the various available OSS interfaces is substantially the same as that of Qwest performing similar activities using internal OSS interfaces.
- b. Qwest provides CLECs with non-discriminatory access to its OSS for the purposes of initiating service requests and M&R trouble transactions.

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<sup>68</sup> Ibid. pages 236-242.

<sup>69</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, pages 18-20.

## C. Parties' Position

### 1. CLEC's Position

137. First, the CLECs contend that there is insufficient evidence to reach conclusions as to retail parity, and to the contrary, evidence shows that Qwest is not providing CLECs with nondiscriminatory access to its OSS.<sup>70</sup>

138. In support of their assertions, CLECs present a litany of arguments that the TSD has not been adhered to; evaluations were not properly conducted; the IMA-GUI does not provide comparable response times; certain parity tests were not conducted using EDI; sample sizes for conducting M&R evaluations were inadequate; and findings on the Quantitative evaluation portion of the RPE point towards a conclusion of disparity.<sup>71</sup>

139. CLECs argue that the RPE has significant problems and testing methodologies were flawed. CLECs assert it takes much longer for CLECs to execute pre-order transactions; it takes CLECs many more steps and many more fields to create service orders; and key qualitative questions remain unanswered. CLECs contend evidence supports negative timeliness findings, negative quantitative findings, and inconclusive qualitative findings – which is inconsistent with the TA's overall positive nondiscrimination finding. CLECs assert that still more testing is needed as the evidence overwhelmingly supports a finding of discrimination.

140. CLECs propose that Qwest's pre-ordering and ordering processes be modified to remove extra process steps and shorten response times so that the wholesale users of the IMA GUI have access to equivalent processes that operate without discrimination. Upon implementation of the process changes, the TA should re-test to determine whether the disparity has been removed.

141. Second, the CLECs state that CGE&Y's Sample Size during the Evaluation of the Timeliness of Maintenance and Repair Was Too Small to Reach Any Meaningful Conclusions. The CLECs point out that CGE&Y tested with sample sizes that were too small to reach any meaningful conclusions about the timeliness of maintenance and repair transactions.

142. Third, the CLECs argues that CGE&Y's findings on the quantitative evaluation portion of the Retail Parity Evaluation point towards a conclusion of disparity and Retail Parity Test conclusions should reflect this.

143. CLECs point to the findings in the RPE that there is disparity in fields and steps to complete an order and there is disparity in response times. Based on these disparities the CLECs disagree with the findings and conclusions reached by CGE&Y in the RPE. There were two IWOs involved with these findings: AZIWO1110 and

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<sup>70</sup> AT&T's Comments on Draft Final Report, January 18, 2002, pages 18-19.

<sup>71</sup> AT&T's Comments on Draft Final Report, January 18, 2002, pages 3-18.



AZIWO1111. CLECs disagreed with the TA closing these IWOs and took them to Impasse. The issues are as follows:

a. Analysis of Phase 2 Retail Parity Evaluation results indicates that, for the scenarios examined during Phase 2, total IMA-GUI preorder response times experienced by CLEC representatives are consistently longer than experienced by Qwest retail representatives. On average, the total scenario response time experienced by the CLEC representative is about three times as long as that experienced by the Retail representative. The difference is substantial and highly statistically significant. It is also pervasive across nearly all scenarios examined in the Phase 2 RPE. (AZIWO1110)

b. CGE&Y found disparity in the numbers of fields and steps required for a CLEC using IMA-GUI to complete an order (including pre-order steps) versus Qwest; the numbers of fields and steps were greater, across most scenarios, for CLECs. (AZIWO1111)

## **2. Qwest's Position**

144. Qwest pointed out that the RPE is a test unique to Arizona.<sup>72</sup> No other OSS test in the country that has been approved by the FCC, including New York and Texas, has included a comparison like the RPE. Qwest also noted that this new evaluation was intended to be conducted at a higher level than the detailed algorithmic and statistical tests that are part of the Arizona OSS test and similar tests in other jurisdictions. From its inception, stated Qwest, the RPE was intended to be an order of magnitude comparison to determine whether the necessary and acknowledged differences between Qwest's internal systems and the interfaces by which it provides CLECs access to those interfaces result in any practical difference to a customer calling in for service.

145. Qwest also argued that there are acknowledged differences between its retail systems and the interfaces it provides to CLECs to allow them to access its OSS.<sup>73</sup> Some of these acknowledged differences are necessitated because the electronic interfaces through which Qwest provides CLECs access to its OSS were designed to follow industry guidelines. The industry guidelines support wholesale ordering and are not intended to apply to retail ordering. Additionally, the CLEC interfaces were developed relatively recently with the advent of local telecommunications competition for the purpose of providing CLECs access to Qwest's current systems. In contrast, Qwest's systems were developed over a period of many years and modified as additional internal needs were identified.

146. Qwest also stressed that the overarching focus of the RPE is "on the experience which the customer has while on the line with a CLEC representative, in

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<sup>72</sup> Qwest's Post-Workshop Brief Regarding Retail Parity Evaluation Issues, August 2001, page 1.

<sup>73</sup> Ibid. page 2

comparison to the experience of a customer while on the line with a Qwest representative." See MTP Section 5.2.<sup>74</sup>

147. Qwest also argued that neither the MTP nor the TSD prescribed any particular analysis or methodology to be employed by CGE&Y in answering that question.<sup>75</sup> Neither the MTP nor the TSD suggested any particular basis for weighing the data. Instead, CGE&Y was required to gather specified data and then exercise its professional judgment based on its personnel's years of relevant experience. Qwest stated that this is exactly what CGE&Y did.

148. Qwest dismisses AT&T's attempt to discredit CGE&Y's findings regarding the TSD's requirement for CGE&Y to count autopopulated fields on the retail and wholesale systems and compare the results. Qwest stated that CGE&Y testified that the differences in the systems precluded the apples to apples comparison envisioned by the TSD because the retail system contained certain autopopulated fields but the wholesale system used pull-down menus instead.<sup>76</sup> Because the TSD directed that quantitative test measures could be used only "where apples to apples comparisons of countable data elements is possible, CGE&Y did not count the autopopulated and pull-down fields. Instead, in accordance with the TSD's requirement to use "[q]ualitative test measures....where an exact means of comparison is not possible," CGE&Y exercised its professional judgment in determining that the pull-down menus allowed creation of the resale order without re-keying the preorder data.

149. Qwest also noted that AT&T proposed in a TAG meeting immediately after the RPE workshop that five portions of the RPE should be redone.<sup>77</sup> The five items related to counting steps for preorder to order integration, evaluating the relative capabilities for edit and error checking, evaluating the relative abilities to reserve large blocks of telephone numbers, evaluating the relative abilities to check pending order status, and evaluating the relative abilities to obtain expedited due dates. Qwest stated that while these factors are listed in the TSD, neither the MTP nor the TSD prescribed any particular methodology that CGE&Y was required to employ in conducting its evaluation. During the Workshop, CGE&Y explained its findings, its interpretation of the TSD, and the approach it took in evaluating each of these test items.

150. Qwest noted that first, CGE&Y explained that steps could not be compared for preorder to order integration in the RPE because the systems are dissimilar.<sup>78</sup> Second, CGE&Y explained that it did observe that relative edit and error checking capabilities were similar. Third, CGE&Y explained that the process for both wholesale and retail reservation of large blocks of telephone numbers was a manual process and evaluation of that manual process is outside of the scope of the RPE. Thus, CGE&Y evaluated the processes to the point at which each process required a manual telephone call to the same center. Fourth, CGE&Y confirmed that the functionality to

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<sup>74</sup> Ibid. page 2.

<sup>75</sup> Ibid. page 7.

<sup>76</sup> Ibid. page 8.

<sup>77</sup> Ibid. page 11.

<sup>78</sup> Ibid. page 11.

inquire as to the status of pending orders existed for both wholesale and retail. However, the design of the RPE, as set forth in the MTP, specifically provided that the RPE orders were to be canceled in the service order processes. Fifth, CGE&Y ended its analysis of the relative abilities of wholesale and retail representatives to obtain expedited due dates at the point where both processes required phone calls because the RPE was not intended to follow orders to that extent.

**C. Staff Discussion and Recommendations**

151. CLECs contend that there is insufficient evidence to reach conclusions as to retail parity, and to the contrary, evidence shows that Qwest is not providing CLECs with nondiscriminatory access to its OSS. Staff reviewed the CLEC comments and the TA's findings on these issues in CGE&Y's Final OSS Test Report. Staff believes that the TA has addressed the CLECs' issues listed above. CLEC concerns appear to be more "disagreement with the findings and conclusions of the TA" rather than as to whether the TA completed the activities.

152. CLEC issues were brought up in a Workshop related to the initial RPE test performed by the TA. Following the Workshop, Staff observed that the TA needed to address these issues and the TA concurred that retesting should be performed for the RPE test. The Final Report reflects the results of the retest and includes findings for the issues cited above.

153. Two issues warrant further Staff comments:

a. Ability to request large blocks of telephone numbers. The Report compares the ability of a CLEC to request large blocks of telephone numbers with the ability of a Qwest representative to do so. While the CLEC has the ability to reserve telephone numbers, the TA finding of "parity" is somewhat questionable. The Qwest representative gets immediate feedback, while the CLEC received a "fax response" at a later time. Staff agrees with the CLECs that this is not a "parity response." The TA also apparently agrees because in their list of recommendations for improvements in Qwest processes, CGE&Y recommends improvement in the process of the CLEC requesting large blocks of telephone numbers. Staff agrees with this recommendation and request that Qwest change the process to one that provides parity to the CLECs.

b. The ability to expedite Due Date. The TA evaluated the CLEC and Qwest processes for requesting an expedited due date and found they were the same. However, the CLECs contend that the test should have also ascertained that the number of expedited Due Date requests for CLECs and Qwest were in parity. The TA did not evaluate this, and counters that the MTP did not require this evaluation. The Staff agrees with the TA that such an evaluation was not required. Staff's underlying considerations for not conducting a test in the manner prescribed by the CLECs are that:

- Determination of statistical parity for this process would have taken a large sample of request over an extended period.
- The Staff believes that a better method of determining whether Qwest is expediting Due Dates is through commercial data for the PID that measures installation interval (OP-4 Installation Interval).
- If Qwest expedites Due Dates for its customers and not CLECs this PID will not be in parity and a penalty under the PAP would be paid to the CLECs.

154. Second, Staff believes that CLECs arguments that CGE&Y's sample size during the evaluation of the timeliness of maintenance and repair was too small to reach any meaningful conclusions is a moot point. The testing referred to by the CLECs is the test of the IMA-GUI M&R for the Retail Parity Test. Subsequent to the completion of the test, Qwest replaced the IMA-GUI system for M&R with the Customer Electronic Maintenance and Repair (CEMR) system. The parties agreed that the CEMR system would be evaluated in the FT, which was the case. The CEMR system was designed by Qwest specifically to handle CLEC M&R and to overcome problems that existed with the old IMA-GUI M&R system. The system provides access to Qwest M&R basically in the same manner as for Qwest Retail systems and therefore is "almost parity" by design both in functionality and timeliness. Testing of CEMR in the FT confirms that this is the case.<sup>79</sup>

155. Finally, M&R systems do not have the same timeliness issues that ordering systems have. This is mainly because M&R requires only a small number of transactions (i.e., there is not a PID for M&R OSS response times). This is true not only for Arizona, but industry-wide. Staff believes that because of the design of the CEMR system and the verification testing in the FT that this issue is closed.

156. Third, Staff does not believe that CGE&Y's findings on the quantitative evaluation portion of the Retail Parity Evaluation point towards a conclusion of disparity.

157. Because these IWOs were taken to Impasse, Staff considered the substance of these disagreements in detail. Staff concurred with the closing of AZIWO1110 and AZIWO1111.<sup>80</sup> As a result, Staff also concurs with the TA findings and conclusions in the RPE.

- a. Parity performance of these systems is not expected. Since CLEC access to the Qwest OSS systems is through the IMA system, it is understood that the IMA-GUI response times would be longer than the internal Qwest response times. Therefore a Qwest service representative would experience less delay

<sup>79</sup> *Final Report of the Qwest OSS Test, Version 2, March 29, 2002, pages 91-95.*

<sup>80</sup> *Impasse AZIWO1110 and Impasse AZIWO1111, Master Issues 935 and 936, January 28, 2002.*

than a CLEC representative would. The first proposed benchmarks for IMA-GUI response time were expressed as retail + "x" seconds. These benchmarks were later negotiated between the CLECs and Qwest and changed to fixed benchmarks. Other ILECs still use retail + "x" seconds response time as a standard. The IMA response time benchmark intervals are greater than the Qwest response times for its internal OSS systems. The current IMA-GUI response times as required by the PID (PO-1) for Arizona do not provide for parity performance.

b. In addition, it was also understood that the IMA-GUI interface would likely require more entries by a CLEC representative for order entry than a retail representative. This is because of Order and Billing Forum (OBF) standards requirements plus other differences between retail and wholesale operations.

158. The RPE was included in the MTP because of the differences between the CLEC systems performance and the Qwest systems performance. It was never expected that response times or order entries for IMA-GUI would be in parity with retail systems. As stated in the MTP: "Specifically, the purpose of this test is to determine whether a CLEC representative, using a Qwest OSS interface, can provide service in substantially (not identical) the same time and manner as the service that a Qwest representative provides".<sup>81</sup>

a. The evaluative criteria in the RPE were not parity of system response times or order entry requirements.<sup>82</sup> CGE&Y has gone far beyond the analysis that was anticipated by the MTP. It has provided detailed statistical analysis of response times. It has counted fields and steps for IMA-GUI and retail systems and compared them.

b. Following the workshop on the RPE, CGE&Y has re-tested Retail Parity to provide additional analysis. IWOs on these issues have subsequently been opened, responded to, and closed.

159. Most importantly in Staff's opinion, however, as required by the MTP, CGE&Y compared the experience of a CLEC representative using the IMA-GUI interface with a Qwest representative using Qwest's systems.<sup>83</sup> They found that the CLEC representative could provide service in substantially the same time and manner as that which the Qwest representative provides. The average service order negotiation takes twenty to twenty five minutes or longer. This makes the nominal IMA-GUI system benchmark response times of only a few seconds, even though more than Qwest retail time, irrelevant. CLEC order entry requirements are substantially automated and are not significantly greater than the retail requirements. Further, CGE&Y found in the Capacity

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<sup>81</sup> Test Standards Document: CGE&Y Telecommunications 271 Test Standards, June 29, 2001, pages 4-1.

<sup>82</sup> Master Plan for Testing Qwest's Operations Support System in Arizona, June 29, 2001, page 30.

<sup>83</sup> Ibid. page 14.

Test that the IMA-GUI response times were well within the negotiated benchmarks for PO-1. Based on the overall analysis, CGE&Y's findings are reasonable.

160. Staff concurs that, in accordance with its analysis, CGE&Y closed all RPE IWOs appropriately. Staff also believes that the CLECs are perhaps overlooking the original intent of the RPE. Parity performance of the IMA-GUI system compared to the Qwest retail system is not a requirement of the RPE. The findings of this evaluation indicate that the IMA-GUI system should adequately meet the requirements of small volume CLECs. The question of CLEC/Qwest parity is not an EDI issue.

161. Staff also supports the following recommendation of CGE&Y relative to Retail Parity:

a. CGE&Y recommends that Qwest improve the process for CLECs to reserve large blocks of TNs. The reservation of large blocks of TNs is currently a manual process for CLECs. A process improvement, through mechanization or other means, would be most beneficial to CLECs when servicing business customers. The basis for this recommendation is discussed in the Retail Parity Evaluation section of this report on page 236 and in Data Request 192. (Recommendation No. 9).

162. In summary, Staff agrees with the TA findings and conclusions regarding Retail Parity and recommends that the ACC support them and find Qwest to be Section 271 compliant in this regard.

### 3. CAPACITY TEST

#### a. Capacity Test Objectives and Process

163. The Capacity Test (CT) was designed to determine whether Qwest's OSS and processes for pre-order and ordering transactions could predictably handle projected loads that were equal to or greater than transactions volumes forecasted by TAG participants.<sup>84</sup> The CT also included reviews of procedures associated with computer system scalability and staff scalability, to determine, under a specific set of assumptions, whether or not Qwest appeared to be capable of handling both "projected" and "unexpected" future CLEC demand. The CT encompassed:

- a. System capacity testing used "load generators" to verify the capacity of designated Qwest OSS.
- b. OSS system scalability encompassed procedures for capacity expansion and estimates of the largest volume that the OSS configuration would accept under normal conditions.

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<sup>84</sup> CGE&Y's discussion of the Capacity Test is contained at pp. 261 through 318 of their Final Report.

- c. Staff scalability investigated the ability of Qwest personnel staffing processes to accommodate growth rates that may be higher than anticipated.

164. The TAG Capacity Test Sub-committee made up of TAG participants including CLECs and Qwest designed the CT. The details of the OSS Capacity Test are described in the System Capacity Test Detailed Plan. The CT included tests for evaluating the capacity of Qwest's pre-order and ordering OSS interfaces for resale, number portability, UNE-P, UNE-loop, and UNE-loop with number portability. A full complement of tests was performed for each of Qwest's electronic gateways, including IMA-GUI and EDI. Orders were cancelled prior to provisioning.<sup>85</sup>

165. The CT incorporated a "test deck" comprised of a representative mix of preorder queries and order transactions established by the Subcommittee.<sup>86</sup>

a. For preordering, volume units were "service queries." The generated workload encompassed: address validation; CSRs; service and feature availability; appointment scheduling inquiry; facility availability; and telephone number inquiry.

b. For ordering, volume units were LSRs. A representative mix of "clean" LSRs and LSRs "seeded with errors" was used. The test validated the capacity of the systems to process typical commercial LSRs in a production environment (although not across extensive LSR types). Test conditions accommodated errors and rejections.

166. The CT determined if Qwest's systems could meet benchmark standards set for pre-order transactions (PO-1) and FOCs (PO-5) under the increased load. CGE&Y did not measure actual CLEC pre-order transactions for determining PO-1, but used Qwest simulated transaction system known as IMA Response Time Measurement (IRTM).<sup>87</sup> IRTM is Qwest's system for determining OSS response times.

167. The generated volumes incorporated expected demand for either Qwest's entire 14-state service area or its Central Region, as appropriate. Operational Readiness Tests (ORTs) were performed for the purpose of issuing orders that would verify flow-through as anticipated. (In effect, the ORT was a "dry run" to ensure that all interconnecting systems worked prior to running the CT.) Multiple ORTs were run to resolve design discrepancies in the "test deck".

168. Throughputs of the CT were as follows:<sup>88</sup>

- a. Pre-order - A total of 21,500 pre-order transactions were executed and reported during the 11-hour CT, consisting of 18,316 EDI and 3,184 GUI

<sup>85</sup> Final Report of the Qwest OSS Test, Version 2, March 39, 2002, page 266.

<sup>86</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, page 266.

<sup>87</sup> An integral part of the Capacity Test was to collect actual response times experienced by the Pseudo-CLEC to compare results to those reported by Qwest using IRTM.

<sup>88</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, page 261.

transactions. An additional load of 14,387 pre-order transactions was executed during the four-hour Stress Test consisting of 12,053 EDI and 2,334 GUI transactions.

b. Order - A total of 4,915 LSRs were submitted for the CT, of which 4,217 were submitted through EDI and 698 through GUI. An additional 3,121 LSRs were submitted for the Stress Test, of which 2,686 were submitted through EDI and 435 through GUI.

169. "Success criteria" for the CT required that 6-month, 9-month and 12-month load forecasts meet specified benchmarks and pass a "scalability assessment. A "Stress Test," conducted for diagnostic purposes, was to ascertain that volumes at 150% of the respective peak 12-month forecasted capacity did not adversely affect Qwest's production environment.<sup>89</sup> Stress test volume was to increase progressively from 50 percent to 150 percent higher than the base volume, and be sustained for at least two hours.

170. Preordering and ordering components of the CT were executed independently of each other. The CT extended over an eleven-hour time frame. The stress test was performed over a four-hour period. To ensure accurate results and by agreement of the parties, the Capacity Test was not run at the same time as the Functionality Test.

**b. CGE&Y CT Test Results**

171. The specifics of CT administration and implementation are provided in Appendix D. The CGE&Y System CT and Stress Test yielded the following results:<sup>90</sup>

a. The 12-month forecasted volume for pre-order queries transmitted to Qwest's OSS were processed satisfactorily. The added test volumes, (as an overlay to the normal production activity) did not cause Qwest's OSS to experience abnormal terminations or disruption of operations.

b. The pre-order performance results (PO-1A for GUI and PO-1B for EDI) obtained from the 12-month CT were within the required PID benchmarks for each query type. This was true for the times reported by IRTM as well as times calculated from the test data provided by the Pseudo-CLEC.

c. The FOC performance results (PO-5A for GUI, and PO-5B for EDI) were within PID benchmarks. Accordingly, 95% of all FOCs were received within twenty minutes for both GUI and EDI for all LSR product activity types.

<sup>89</sup> As such, PO-1 benchmarks had to be met at the 6-month level, but did not have to be met at the 9 and 12-month levels when the scalability analysis was passed. Neither benchmarks nor the scalability assessment applied to the diagnostic stress test.

<sup>90</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, pages 284-288.



d. During the Stress Test the level of performance for receiving pre-order responses from Qwest's OSS met benchmarks at loads up to 150% of the peak hour load. During the third hour, the Stress Test volume reached 220% of the peak hour load (the plan was only to reach 150%) and caused the EDI pre-order process to deteriorate.

e. P0-1A results obtained during the stress test are within the PID benchmarks for all query types. This was true for the times reported by IRTM as well as times calculated from the test data provided by the Pseudo-CLEC.

f. PO-1B results obtained during the course of the stress test, as anticipated, did not meet the PID benchmarks during the third hour. During the third hour of the test, responses were delayed due to high transaction volumes. When EDI transaction intervals obtained during the third hour are excluded from the results, the resultant average response times were within the PID benchmarks and were comparable to results achieved by IRTM.

g. PO-5A and PO-5B results obtained during the stress test are within PID benchmarks for all LSR product activity types.

h. Data from the 12-month CT does not dispute that IRTM is an adequate tool for gauging pre-order response time intervals Qwest's OSS are providing to the CLECs.<sup>91</sup>

172. CGE&Y concluded that Qwest's OSS continued to provide a level of performance well within the benchmarks established during all phases of the System CT. The relevant performance measure standards were met. Qwest's OSS handled the offered load. CT execution did not cause application or system failures. Non flow-through orders were not processed. Therefore, CGE&Y concluded that Qwest's OSS have the capacity to meet current demand and that forecast for the forthcoming 12 months.

**c. Scalability Evaluation**

173. The TA also performed a system scalability analysis to determine if Qwest had suitable procedures for scaling its systems, thereby ensuring sufficient capacity to handle CLEC loads. The System Scalability Evaluation included an examination of the OSS interfaces, systems that support these interfaces, and databases that were accessed in conjunction with related OSS functions. This encompassed:

a. Procedures for tracking OSS load and capacity; procedures for forecasting future OSS loads; and the processes for accommodating OSS computer growth.

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<sup>91</sup> Once a timeout exclusion was applied to EDI results from the stress test, stress test results also support this conclusion.

- b. OSS backup, security, and disaster recovery, and measures to ensure OSS database security.

174. The TA performed “a Staff Scalability analysis” to determine if Qwest had the ability to increase the number of personnel available to perform these manual functions. This review encompassed:<sup>92</sup>

- a. Evaluation of force models and development procedures to evaluate CLEC support center requirements.
- b. Evaluation of Qwest’s volume contingency plans to meet dramatic increases in CLEC order volume.
- c. Evaluation of Qwest’s disaster recovery plans to assure continued operations in the event of catastrophic service disruptions.
- d. Evaluation of scalability of Qwest’s recruiting and training programs to ensure the availability of staff with the skills to adequately perform the manual support functions.

175. Qwest’s staff planning process was assessed in terms of the number of staff, the facilities to accommodate staff, and the training necessary to bring new personnel up to appropriate levels of productivity. Qwest’s “support center workforce development” modeling procedures were reviewed together with the mechanisms linking future volume projections and workforce modeling procedures. Support centers were evaluated for the ability to respond to increased workloads and to provide adequate resources to handle the manual processing of non flow-through LSRs. Contingency plans to meet unforeseen increases in order volume, and Qwest’s disaster recovery plans to assure continued OSS support for CLECs were also evaluated. The ability of Qwest’s recruiting and training programs to provide staff with the necessary skills to perform the manual support functions was assessed. Qualitative staff scalability analysis is provided in Exhibit 5-2. Fifteen categories were evaluated, reflecting the scope of the Staff Scalability analysis.

**d. CGE&Y Scalability Results**

176. The System Scalability review conducted by CGE&Y determined that Qwest’s processes, procedures and planning tools currently in place adequately monitor Qwest’s OSS to scale for anticipated larger workloads, specifically:

- a. Procedures for tracking OSS loads and capacities are in place, actively being utilized, and sufficient to detect unexpected increases in volume in order to react appropriately.

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<sup>92</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, pages 313-319.

b. Procedures for forecasting future OSS loads are similar to procedures observed in other jurisdictions for planning purposes and are adequately maintained and followed by Qwest's systems staff.

c. Processes are in place and actively followed for managing and providing the necessary CPU, memory and data storage requirements for Qwest's OSS computer growth.

d. Qwest has adequate procedures in place to enable its staff in executing OSS interface data security processes.

177. A more detailed summary of CGE&Y's System scalability findings are summarized in Exhibit 5-1. The extensive scope of analysis is reflected in approximately 30 categories of measurements addressed.

178. In light of the above findings, CGE&Y concluded that Qwest has adequate processes and procedures in place to maintain system capacity; that these processes and procedures are well documented; that these processes and procedures are sufficient to meet required performance levels that have been established thereby providing a meaningful opportunity for an efficient CLEC to compete.

179. CGE&Y also determined that Qwest has ability to increase personnel to process CLEC orders. In this regard, CGE&Y found:<sup>93</sup>

a. CLEC support center workforce development modeling procedures and documentation are available.

b. In-place volume contingency plans to meet dramatic increases in CLEC order volumes through either re-routing work to supporting ISC offices, or outsourcing to a vendor, are documented and available to Qwest staff. Provisions are sufficient to cover the daily workload.

c. Disaster recovery plans are well defined and assure that operations will be continued and sustained in the case of mishap.

d. Recruiting and training programs ensure the continued availability of competent staff with the necessary skills to adequately process CLEC orders.

180. Based on the above findings, CGE&Y concluded that Qwest maintains adequate forecasting procedures to identify the need for additional work forces; to respond within reasonable timeframe; and to make provisions for appropriate training and placement.

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<sup>93</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, page 317.

e. Position of the Parties

1. CLEC's Position

181. CLECs take issue with the TA's findings as to the CT. CLECs contend Operational Readiness Test ("ORT") results were not properly tracked; analysis demonstrated that Qwest's calculation of PO-1 results is non-compliant with the PO-1 PID; stress volumes yielded excessive response times for CLECs; and the CT failed to evaluate actual CLEC usage of Qwest's preordering system against results produced by Qwest's IRTM "system simulator."<sup>94</sup> These issues are discussed below.

182. CLECs assert that the results of the ORT should have been compared with the results of the "System" CT, which would demonstrate consistency of results between the separate tests as "a logical application of test integrity."

183. First, the CLECs raised the following specific issues relative to the ORT conducted by CGE&Y prior to start of the CT:

a. CLECs contend that CGE&Y did not properly track ORT results. CLECs observe that issues identified in section 4.1.3 of CGE&Y's interim Final Report "included incorrect test scripts created by CGE&Y, incorrect templates created by the Pseudo-CLEC, incorrect test bed setup by Qwest, and inconsistent reporting of response times."<sup>95</sup>

b. CLECs assert that "without tracking the results of these issues for each ORT, CGE&Y ignored the terms of the Detail (CT) Plan and could not properly validate that any of these issues were, in fact, resolved." CLECs point to the observation that the Pseudo-CLEC enjoyed significantly faster query response time and significantly shortened FOC intervals during the CT than were experienced in the ORT.

184. Second, the CLECs also raised several issues related to Qwest's use of IMA Response Time Measurement (IRTM) system to measure OSS response times, per the PO-1 PID.<sup>96</sup> PO-1 measures the timeliness of responses to specific preordering/ordering queries for CLECs via specified gateway interfaces. Measurements are made using the Qwest IRTM system that simulates transactions of requesting preordering/ordering information from the underlying OSS. When PID and performance standards were established, CLECs conditionally accepted the use of IRTM to measure OSS response times. Parties agreed that the results of the OSS test would provide a basis for ascertaining whether Pseudo-CLEC's "actual results" of pre-order queries were consistent with "IRTM results." However, after reviewing CT and FT results, the CLECs contended that IRTM results for EDI transactions were not sufficiently accurate. CLECs

<sup>94</sup> AT&T's Comments on Draft Final Report, January 18, 2002, pages 37-40; and WorldCom, Inc.'s Comments on Final Reports of Qwest OSS Test, January 18, 2001, pages 29-30.

<sup>95</sup> AT&T's Comments on Draft Final Report, January 18, 2002, page 37.

<sup>96</sup> AT&T's Comments on Draft Final Report, January 18, 2002, pages 41-42; and WorldCom, Inc.'s Comments on Final Reports of Qwest's OSS Test, January 18, 2001, pages 30-31.

claim analysis involving the IRTM demonstrated that Qwest's calculation of PO-1 results is non-compliant with the PO-1 PID.<sup>97</sup> CLECs had issues with comparison of measured results with IRTM results. CLECs argue that actual measured EDI transactions are more accurate than IRTM for measuring OSS response times.

185. The CLECs propose that, to overcome their concerns, Qwest be required to use actual measured EDI response times as source data for determining PO-1B results.

## **2. Qwest's Position**

186. Qwest first noted that in the first phase of this test, CGE&Y instructed the Pseudo-CLEC to submit pre-ordering and ordering transactions to Qwest's OSS in the volumes that were expected to occur twelve months in the future.<sup>98</sup> The success criteria for this test required Qwest to meet certain performance metrics at volumes projected to occur six months from the date the test was run. For volumes projected to occur nine and twelve months from the date of the CT, Qwest could pass even if it did not meet those performance metrics so as long as CGE&Y determined that Qwest's procedures for scaling up its systems and staff were capable of handling projected future volumes. Thus, meeting performance benchmarks was an absolute requirements only at the sixth month level. In the second phase of the CT, CGE&Y instructed the Pseudo-CLEC to submit pre-ordering and ordering transaction to Qwest's OSS in increasing increments up to 150% of the volume projected for the busiest hour twelve months in the future. There were no success criteria for the Stress Test.

187. Qwest stated that it passed both phases of the CT.<sup>99</sup> Qwest further stated that it met the benchmarks in the twelve month test despite the fact that CGE&Y actually submitted more transactions than were planned. Qwest also stated that it met the benchmarks during the Stress Test except for a sixteen minute period during which CGE&Y bombarded Qwest's OSS with a full 70% more pre-order transactions than planned – a colossal 220% of the volume that was not expected to materialize for a full year into the future. Qwest also stated that it passed the systems and staff scalability tests.

188. In responding to the CLEC concerns, Qwest first notes that the TSD does not require TAG approval of the Detailed Capacity Test Plan, which was the subject of discussion and collaboration over the course of approximately thirty meetings beginning in April 2000 and continuing through July 2001 by the Capacity Subcommittee.<sup>100</sup> Qwest states that the requirement that the plan be reviewed with the CLECs, the Pseudo-CLEC

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<sup>97</sup> PO-1A and PO-1B measures the time interval between query and response for specified pre-order/order transactions through the electronic interface. These measures are comprised of 10 transaction types that are accordingly measured and reported on a disaggregated basis. The "standards of performance" are benchmark measures that reflect the amount of time that it takes Qwest's systems to process the CLEC query and provide a response. Separate reporting is provided for queries submitted via IMA GUI and via IMA-EDI.

<sup>98</sup> Qwest's Post-Workshop Brief Regarding Capacity Test Issues, July 2001, page 1.

<sup>99</sup> Ibid. 3, page 2.

<sup>100</sup> Ibid. page 4.

and Qwest prior to conducting the CT was met because all versions of the Detailed Test Plan were reviewed by the CLECs, the Pseudo-CLEC, and Qwest and they all actually discussed and developed the Detailed Test Plan.

189. Qwest also argued that when properly analyzed, the ORT results are consistent with the twelve month test results.<sup>101</sup> Qwest pointed out that the purpose of the ORT was different than the purpose of the CT. The CT's primary purpose was to validate the capacity of Qwest's OSS to process typical commercial LSRs, not to evaluate the functionality across extensive LSR types. While the ORT was not required by either the MTP or TSD, the Capacity Subcommittee determined that operational readiness testing was appropriate for the CT in order to verify that all of the components for the test, were in place and working sufficiently to enable the test to proceed. In particular, the ORTs were designed to eliminate test account and script errors. Qwest stated that the ORTs were very valuable because they ensured that the test accounts were properly established so that the planned volumes could be achieved. While CGE&Y had planned to conduct three ORTs, it actually conducted five to attain the desired results. The ORTs allowed errors to be identified and fixed.

190. Qwest dismissed AT&T's comparison of the results of the ORT and 12 month CT. Qwest pointed out that the differences were largely attributable to a significant number of unusually long response times during the ORT. Because there were relatively fewer transactions in the ORT, the results were skewed by the number of unusually long response times, brought about by issues relating to test accounts. Qwest also pointed out that in accordance with the MTP mandate to primarily use error-free transactions in the CT, the test account information used for the pre-order transactions was fine-tuned over the course of the ORTs to reduce the number of long response times due to test account information errors. Thus, there were fewer test account errors submitted during the 12 month test and more iterations of error-free test account information to attain the necessary volumes.

191. Qwest also challenged AT&T's claim that the FOC intervals for the 12 month test and ORT showed discrepancies. Qwest pointed out that a review of the transaction reports CGE&Y produced from the 12 month test and the ORT revealed that CGE&Y calculated FOC intervals differently in each case. If the FOC intervals from the ORT are calculated using the same methodology CGE&Y used for the 12 month test, Qwest stated that the results are much more comparable.

192. Qwest also supported CGE&Y's conclusion that IRTM is an adequate toll for gauging pre-order response times. Qwest stated that the CLEC's claim that IRTM does not reflect the CLECs' experience is based upon a faulty premise. Qwest stated that while it is possible under extremely limited circumstances for Qwest's systems to provide a valid response that exceeds 200 seconds, Qwest excludes response times that exceed 200 seconds from its results for reporting purposes in accordance with the PIDs. Qwest stated that the circumstances under which a CLEC can experience response times in excess of 200 seconds are rare and, in any event, the issue does not relate to any legitimate CT

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<sup>101</sup> Ibid. page 6-7.

issue or to IRTM's ability to capture these longer response times. Under normal conditions, if a CLEC does not receive a response to a pre-order query within 200 seconds, the time out mechanism will terminate the transaction. However, the PID provides that timed out transactions are excluded from reported results. Thus, even though IRTM records all response times, regardless of length, Qwest excludes IRTM results that exceed 200 seconds from its PID calculations because the business process layer mechanism times out transactions that exceed 200 seconds. However, during the CT, because the transaction were queued for a period of time before they entered the business process layer, the processing time for a transaction once it entered the business process layer may be less than 200 seconds and the transaction was not timed out. Qwest states that this issue bears no relationship to the adequacy of IRTM as a measurement tool.

193. Qwest also responded to CLEC concerns regarding the IRTM outage.<sup>102</sup> During the third hour of the Stress Test, IRTM experienced an outage that prevented it from recording response times.<sup>103</sup> CGE&Y issued IWO2119 and, in response, Qwest explained that the outage was coincidental and unrelated to the Stress Test. At the workshop, AT&T claimed that the outage called into question IRTM's adequacy as a measurement tool. Qwest claimed that there was no relation between the outage and Stress Test volumes. Given the configuration of IRTM it is not possible for IRTM to be impacted by the volumes of transactions processed by Qwest's interfaces, just as a CLEC's systems are not impacted by the volumes of transactions processed by Qwest's interfaces.

194. Qwest also dismissed the CLECs claim that the IRTM outage somehow impacted the quality of the data comparison CGE&Y performed.<sup>104</sup> The IRTM outage occurred during the third hour of the Stress Test, when the Pseudo-CLEC received the longest response times. The longer response times were caused by the enormous transaction volumes required for the Stress Test, which were submitted by the Pseudo-CLEC in bursts. These enormous, bursty volumes from a single CLEC would not occur in Qwest's production environment because no single CLEC would be generating volumes at the level projected for the entire community, as the Pseudo-CLEC did for purpose of the Stress Test. Thus, the period for which IRTM data is not available is not representative of any realistic CLEC experience. Qwest also pointed that even during the period for which IRTM was not available, CGE&Y continued to successfully collect the necessary data regarding the response times received by the Pseudo-CLEC.

195. Finally, Qwest responded to CLEC concerns regarding a Fetch-n-Stuff configuration change Qwest had made.<sup>105</sup> Seventy-nine orders (representing only 1.6%) of all LSRs processed during the test, that were expected to receive a FOC did not receive a FOC because of a problem with Fetch-n-Stuff. CGE&Y issued IWO1143 and Qwest described the change it made in its response. CGE&Y adequately explained that a flow-

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<sup>102</sup> Ibid. page 13.

<sup>103</sup> Ibid. pages 10-13.

<sup>104</sup> Ibid. pages 14-15.

<sup>105</sup> Ibid. pages 16-17.

through eligible order may fall to manual handling for many reasons; so long as one of those reasons caused the fall out, the mere fact that orders fell out for manual handling does not indicate that there was a systematic software or configuration problem. This particular change related to a tuning change in the UNIX operating system that did not constitute a software error. CGE&Y monitored the retesting efforts in the FT and determined that the issued has not recurred. Qwest argued further that even if the Fetch-n-Stuff problem had not been fixed, the fall out of 80 orders does not indicate a CT volume-related problem because Qwest's ISC can easily process 80 orders that have fallen out for manual handling with existing resources.

**f. Staff Discussion and Recommendation**

196. Staff agrees with CGE&Y's findings and conclusions regarding the Capacity Test and System and Staff Scalability Tests.

197. First, Staff disagrees with CLECs' suggested interpretation of the ORT.<sup>106</sup> According to the System Capacity Test Detailed Plan, the primary purposes of the ORT were to:

- a. Ensure that implementing the CT would not adversely affect Qwest's production environment.
- b. Ensure that the "test bed" of test accounts to be submitted during the System CT were all capable of being processed by Qwest without "falling out" for manual handling.

198. Both of these requirements were fulfilled as a prerequisite for the test.

199. In Staff's opinion, the CLECs are misconstruing the ORT. The purpose of the ORT was to "set up" the test -- and in due course to monitor the activities of the Pseudo-CLEC to ensure successful test completion. There was never an intention to track results, nor was there a defined need. The CLEC criticism of not tracking the ORT is offered in hindsight. Agreement was reached as to CT procedures without any mention of tracking ORT results.

200. The CLECs imply from their comparative analysis between the ORT and the CT that Qwest must have changed their "system" so that they could pass the CT. Staff disagrees with the CLECs' implication. For many reasons provided by the TA, the comparison of ORT results and CT results are invalid. Further, in the CT workshop, Qwest advised that it had not made any system changes between the ORT and the CT. Finally, the results of the CT clearly demonstrate that Qwest systems can accommodate significantly higher CLEC transaction volumes than the current level of CLEC transactions.

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<sup>106</sup> AT&T's Comments on Draft Final Report, January 18, 2002, pages 37-38.



201. Second, with regard to the CLEC's arguments regarding excessive response times - Staff concurs with the way CGE&Y handled the time-out issue related to the Stress Test.<sup>107</sup> This test was not to be used for evaluating response time performance of Qwest's systems.

202. Using "actual measured results" compared to IRTM - The CLECs went to Impasse for Staff resolution. Because of this, the Staff reviewed this issue in detail. Staff has concurred with CGE&Y's finding that IRTM provided a good representation of CLEC OSS pre-order response times. However, Staff also concluded that because of CLEC concerns, Qwest should be required to undertake the necessary development to directly measure EDI response times at the Interactive Agent (IA), Qwest's IMA entry point. Once implemented, Qwest would be required to track EDI response times measured at the IA. For purposes of PID calculations, in the interim Qwest would continue to use IRTM, with a decision to be made at 12 and 18 month reviews as to whether to use EDI response times as measured at the Qwest IA or to continue to use IRTM.<sup>108</sup>

203. Staff has reviewed the results of CGE&Y's Capacity Test, the Stress Test and System and Staff Scalability analysis.

204. Staff concurs that Qwest's OSS and interfaces have the capacity to meet current and forecast demand. Staff also concurs that they performed satisfactorily under the increased "stress" load. Systems and Staff scalability processes are in place, they are being utilized, and are sufficient to detect abnormal volume increases and react appropriately. Further, with Staff' resolution of the IRTM impasse issue, most of the CLEC's concerns are resolved. Staff recommends that the Commission find that Qwest meets § 271 requirements with respect to capacity.

#### **4. RELATIONSHIP MANAGEMENT EVALUATION**

##### **a. Relationship Management Objectives and Process**

205. The Relationship Management Evaluation (RME) was a "process assessment" that focused on operations support-related methods and procedures that Qwest uses in interacting with CLECs.<sup>109</sup> This included Qwest's programs for providing systems information, training, and problem identification and resolution.

206. The RME sought to determine whether or not Qwest's CLEC account establishment, account management, training, interface development, and CMP<sup>110</sup> were appropriately conducted and effectively communicated to CLECs. The RME also was designed to determine the extent to which Qwest's systems and/or process change-control

<sup>107</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, pages 461-462; Qwest 3, Exhibit A.

<sup>108</sup> This may ultimately be adjudicated in conjunction with Qwest's 14 State forum.

<sup>109</sup> CGE&Y's discussion of the Relationship Management Test appears at pp. 319 through 434 of their Final Report.

<sup>110</sup> CMP is discussed in detail in Section 7.0 of this report.

methods were appropriately handled and effectively communicated to CLECs in accordance with defined change-control procedures.

207. The RME encompassed examination of documentation, specifications and consultative assistance provided by Qwest to facilitate CLECs development of an EDI interface or installation of an IMA-GUI interface. This included the test environment Qwest makes available to CLECs for pre-testing and qualification of EDI and EB-TA interfaces. Inputs and feedback from Qwest, the CLECs, and the Pseudo-CLEC were considered. The interface development evaluation is addressed in Appendix E.

208. RME processes are enumerated in Exhibit 6-1. They reflect the rolls of Qwest organizations that interface with the CLECs including establishment of a CLEC through startup and operation performed by HP as the Pseudo-CLEC. The four comprehensive processes associated with the business relationships between Qwest and the CLEC communities were explored. These encompassed Account Establishment, Account Management, Forecasting and Training.

#### **1. CLEC Account Establishment<sup>111</sup>**

209. This encompasses the process by which a CLEC becomes certified to do business in Qwest's service territory, interconnects its network with Qwest's, and establishes systems and processes to order various Qwest products. The evaluation examined:

- Methods and procedures provided by Qwest for establishing a new CLEC customer account as a Qwest "wholesale" customer.
- Documentation available to a CLEC start-up, and consultative assistance that Qwest provided to a CLEC in getting needed documentation, including material accessible to CLECs via its website, hard copy, public documents obtainable through the State Commission, etc.
- Qwest's CLEC Account Management organization role in account establishment, including its processes, procedures, and personnel.
- CLECs' experiences with the Account Management organization as to account establishment.

210. The substance of information contained in the documentation reviewed and the clarity of instructions for completing necessary paperwork were assessed. Qualitative findings related to Account Establishment are provided in Exhibit 6-2. Twenty-eight evaluative criteria were explored, which in all cases were deemed

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<sup>111</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, pages 24-25; pages 32-325; and pages 464-465.

satisfactory pursuant to closeout of IWOs generated during the course of the RME, as shown on the Exhibit.

## 2. CLEC Account Management<sup>112</sup>

211. This encompasses methods, procedures and account management functions provided by Qwest for managing its ongoing business relationship with the CLECs. The RME examined responses to account inquiries; Help Desk call processing, call closures, and status tracking, problem escalation, forecasting, and communications, including:

- Timeliness, accuracy, and completeness of Qwest responses to account inquiries; frequency and appropriateness of problem escalation efforts taken in response to CLEC inquiries; communications avenues that Qwest makes available to CLECs, and the extent that these are effective.
- Timeliness and responsiveness of Help Desk call processing; appropriateness and methods applied to Help Desk call closures.

212. Day-to-day account management activities from Qwest's perspective entail:

- Advising CLECs about new products as they become available; proactively selling services to the CLECs.
- Fielding questions and addressing "what if" scenarios regarding products, combinations of products, and ordering arrangements; fielding miscellaneous questions from small and medium-sized CLECs.
- Handling CLEC problem escalation, coordinating resolution of disputes, and expediting closure of M&R trouble tickets.<sup>113</sup>

213. Qualitative information was gathered through questionnaires and interviews with CLEC and Pseudo-CLEC personnel, as recipients of account management services, and Qwest account management staff, as service providers.

214. The Pseudo-CLEC held meetings with Qwest's Account Manager on an almost weekly basis to resolve questions/issues uncovered in the CLEC Process. The Pseudo-CLEC covered over 100 action items with the Account Manager. The meetings were useful in answering the questions and further defining the processes required by

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<sup>112</sup> CLEC 12-Step Process Report, March 15, 2001, pages 45-48; Final Report of the Qwest OSS Test, Version 2, March 29, 2002, page 321.

<sup>113</sup> Published escalation procedures are available on Qwest's wholesale website. Smaller CLECs often prefer to go through the Qwest Account Manager for escalations.

HPC to complete its tasks. From February 2000 through the end of December 2000, over 100 action items/issues were tracked with the Account Manager, as enumerated in Exhibit 6-3. This list reflects the myriad inquiries and interactions between the Pseudo-CLEC and Qwest's account management team.

### 3. CLEC Forecasts<sup>114</sup>

215. Account management is responsible for assuring that CLEC facility, products, and colocation space requirements are fulfilled. Qwest account managers and network capacity planners, together with CLEC spokespersons participate in joint demand-forecasting planning sessions. Forecasting requirements coordinated through the Account Manager are highlighted in the Exhibit 6-4. Forecasting arrangements were negotiated in other forums and are codified in the SGAT. Of concern to the CLECs is the reasonableness of Qwest's forecasting requests and Qwest's application of CLEC forecast information in its various planning activities.

### 4. CLEC Training<sup>115</sup>

216. Training evaluation encompassed the availability of training schedules to the CLECs, the frequency of training on the various topics for which training was offered, the detail of the training curriculum and the effectiveness of the training content. Training documentation available to the CLECs was also evaluated.

217. Qwest training available to CLECs at the outset of the RME was limited to two classes (IMA and Directory Listings). During the RME, Qwest rolled out a new, vastly improved and expanded CLEC training program. An excerpt from the catalog of courses addressing CLEC training needs in systems, products and processes is provided in Exhibit 6-5, which demonstrates the scale and scope of Qwest's revised training program.

218. The courses were developed with extensive input from Qwest's product specialists and reflected CLEC feedback provided through the CLEC Account Management staff. Reaction to Qwest's new classes was found to be positive, and respondents were pleased with the quantity and variety of Qwest's new courses. Instructors were knowledgeable and answered questions to the best of their ability. These courses are still in their formative stages, and with student feedback it is expected that these courses will be streamlined and increasingly refined over time.<sup>116</sup>

219. Qwest's new CLEC training curriculum addresses the objectives set forth in the MTP and TSD and now accommodates the needs of the CLEC community. Results of Qwest's training program evaluation, underlying this point of view are further

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<sup>114</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, pages 350-352; pages 362-364; pages 367-365.

<sup>115</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, page 321; pages

<sup>116</sup> Suggested refinements include preparation of orientation background material to increase student familiarity with subject area; more interactive training; more formalized record-keeping to enrich agenda in future classes; and increased simulation of production environment.

detailed in Exhibit 6-6. More than a dozen evaluative criteria were explored, and were deemed satisfactory in all cases.

**b. Position of the Parties**

**1. Position of the CLECs**

220. First, the CLECs argue that CGE&Y's failure to perform formal interviews with CLECs in compliance with TSD requirements rendered CGE&Y's findings suspect with respect to Account Establishment, Account Maintenance, and EDI development. -- CLECs argue that the TA was remiss in not being more aggressive in interviewing CLECs. They charge that CGE&Y unilaterally decided that "questionnaires were an acceptable substitute for interviews with the CLECs."<sup>117</sup>

221. Second, the CLECs allege that CGE&Y failed to evaluate "internal documentation" of Qwest process and procedures to verify that its relationship activities with CLECs are consistently and reliably performed. -- CLECs argue that "The ACC needs to have answers to questions regarding the evaluation of Qwest's internal practices and procedures to determine whether the practices and procedures will be sustained when competitors interact with Qwest to establish CLEC accounts, manage CLEC accounts, and provision services to CLECs for their end users." Furthermore, CLECs contend that such process and procedure issues are raised in the TSD as requirements that CGE&Y has ignored.<sup>118</sup>

222. Third, the CLECs argue that CGE&Y failed to provide conclusions that are required by the MTP and the TSD as to the adequacy of preordering, ordering, repair and maintenance, and billing interfaces, and Qwest's Account Management process. CLECs cite a litany of purported shortcomings as to CGE&Y's failure to fulfill requirements of the MTP and TSD.<sup>119</sup> These include:

- a. Failure to analyze HP's EB-TA and Billing Supplement Reports.
- b. Failure to complete analysis of interfaces that were subject to the interface development evaluation.
- c. Failure to reach a firm conclusion on Qwest's Account Management process.
- d. Failure to highlight a lack of responsiveness from Qwest's Help Desks.

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<sup>117</sup> AT&T's Comments on Draft Final Report, January 18, 2002, pages 19-25; WorldCom 1, Pages 32-34.

<sup>118</sup> Ibid. pages 29-32; WorldCom 1, pages 32-34.

<sup>119</sup> Ibid. pages 47-62; WorldCom 1, pages 32-34.

## 2. Qwest's Position

223. First, in response to the CLEC's concern that CGE&Y did not conduct many formal interviews, Qwest states that CGE&Y's use of written questionnaires to solicit CLEC input is consistent with the MTP's mandate to document the CLECs' experiences. In some cases, Qwest stated that these questionnaires took the place of in-person interviews. CGE&Y diligently followed up with CLECs to encourage them to respond to these questionnaires. CGE&Y sent two rounds of follow up e-mails encouraging CLECs to respond to the questionnaires.<sup>120</sup> Both CGE&Y and Staff proactively contacted CLECs to encourage them to provide input. In addition, any CLEC was invited to call CGE&Y and provide comment. CGE&Y also contacted CLECs throughout the test to conduct informal interviews. CGE&Y also conferred with CLECs to clarify specific answers on specific questionnaires. CLECs also oftentimes approached CGE&Y to discuss specific issues. Some of the information provided by CLECs pursuant to these offers resulted in the issuance of IWOs.

224. Second, regarding the need to review Qwest's internal processes, Qwest states that the MTP describes the documentation to be reviewed and evaluated in precisely the same way every time: documentation to be retrieved from Qwest's web site or otherwise provided by Qwest.<sup>121</sup> Qwest stated that these provisions leave no question that the documentation CGE&Y was tasked with reviewing was the external documentation Qwest provides to CLECs. Qwest also pointed out that CGE&Y went beyond this and through data requests, CGE&Y also obtained and reviewed specific information regarding Qwest's internal processes, procedures, or flowcharts during the course of performing root cause analysis in processing IWOs.

225. Third, in response to concerns by CLECs as to CGE&Y's evaluation of Qwest's CLEC training, Qwest relied upon a quote by WorldCom: "Qwest's CLEC training efforts progressed from unsatisfactory to satisfactory' during the course of the RME."<sup>122</sup> Qwest further stated that CGE&Y's findings reflected the tremendous progress Qwest has made in improving its CLEC training program. CGE&Y evaluated both the old Qwest training programs and the new ones. CGE&Y reviewed completed course assessment sheets which reflected positive feedback.

226. Fourth, regarding CLEC concerns regarding the Pseudo-CLEC's experiences with Qwest's help desk, documented in IWO1145-1, Qwest stated that of the 549 calls referenced, only 82 were escalated.<sup>123</sup> Based on the data provided by the Pseudo-CLEC in its Help Desk Report, many of these calls involved standard issues that would have been resolved immediately. Assuming that as many as half of these calls involved issues that required more than two hours to resolve, the information in the IWO

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<sup>120</sup> Qwest's Post-Workshop Brief Regarding Relationship Management Evaluation Issues, November 2001, pages 4-5.

<sup>121</sup> Ibid. pages 6-7.

<sup>122</sup> Ibid. pages 7-8.

<sup>123</sup> Ibid. pages 8-10.

is consistent with Qwest's commercial data that indicate that Qwest meets its two hour commitment approximately 92% of the time. Further Qwest noted that CGE&Y agreed to review four additional months of raw data reflecting the CLECs' actual commercial experience to allow CGE&Y to independently verify the Help Desk's performance. Additionally, with regard to the Help Desk training deficiencies raised in IWO1146, the TAG determined that this would be retested.

**C. Staff Discussion and Recommendation**

227. With regard to the CLEC's claim that CGE&Y failed to perform formal interviews with CLECs in compliance with TSD requirements rendered CGE&Y's findings suspect with respect to Account Establishment, Account Maintenance, and EDI development, Staff concludes that the CLECs input was sufficient for the findings of the RME. Staff does not agree that findings would be changed as a result of additional interviews. First, the purpose of establishing a Pseudo-CLEC was to "live the experience" of a CLEC starting up and doing business in Arizona. This effort alone provided the TA factual information for the RME. The Pseudo-CLEC provided written reports on its experience and was interviewed by the TA.

a. In addition, CLECs were active participants in the test from the beginning and had every opportunity to communicate with the TA any concern they had. The CLECs took advantage of this opportunity.

b. Finally, the TA did conduct some formal interviews. They also attended CMP meetings on many occasions, during which CLECs had access to the TA. Staff is also aware of visits to CLECs (Cox and Covad) to review operational concerns that were not reported in the Final Report as formal interviews.<sup>124</sup>

228. Second, as to the CLEC's claim that CGE&Y failed to evaluate "internal documentation" of Qwest process and procedures to verify that its relationship activities with CLECs are consistently and reliably performed. Staff concludes that the CLECs input was sufficient for the findings of the RME. Staff does not agree that findings would be changed as a result of additional interviews.

229. Third, with respect to the need to review Qwest's internal documentation there is obvious disagreement between the CLECs and the TA on the MTP and TSD requirements for process reviews. CGE&Y's position is that it interpreted "process documentation" that is found on Qwest's Web Site<sup>125</sup> as being related to the interaction between a CLEC and the Qwest Help Desk. CGE&Y states that Qwest's internal methods and procedures were reviewed as part of other phases of the OSS Test. The RME examined directly utilized methods and procedures, and relied on other OSS Tests for other internal documentation reviews.

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<sup>124</sup> Qwest's Post-Workshop Brief Regarding Relationship Management Evaluation Issues, November 2001, pages 3-5; Workshop 9 Transcript, February 25, 2002, pages 159-1601.

<sup>125</sup> TR 261-262 (Oct. 10, 2001).

230. Staff is of the opinion that much of the criticisms of the CLEC's that may have been justified at the time of the workshops and, to a lesser extent, even in the draft Final Report -- has now been corrected as a result of subsequent work and retesting performed by CGE&Y and this is reflected in its Final Report

231. A series of IWOs were generated to address these and related issues. During the course of the OSS Test all of these IWOs were closed out, and issues were accordingly resolved.<sup>126</sup> The Relationship Management arrangement that has resulted from these efforts now fulfills the objectives of the TSD.

232. In Staff's opinion Qwest's Relationship Management process reflects extensive redesigns, improvements, and refinements that were incorporated during the course of the OSS Test. Many of the criticisms directed at Qwest by the CLECs during the course of the data gathering and workshop phases have been "overtaken by events," and are no longer apropos. In fact, the feedback and observations offered by the CLECs and Pseudo-CLEC were the drivers for constructive change.

233. Virtually every aspect of Qwest's relationship with CLECs has been scrutinized during the past two years. Where training was, in Staff's opinion, minimal at the outset of the OSS Test, Qwest now provides comprehensive training on how to order Qwest's products and use Qwest's systems. Whereas Qwest's Help Desk was deemed unresponsive at the outset of the OSS Test, service managers, and all staff are now effectively interacting with the CLECs. During the course of the RME, many problems were found; numerous improvements were put in place as a result; and Qwest's systems, processes and procedures for working with CLECs have been greatly improved. Whereas Qwest's web-site documentation for CLECs was often fragmented or incomplete when the OSS Test began, Qwest has completely revamped its web-site documentation. As a result of the above changes, CGE&Y concluded in its Final Report that Qwest provides adequate service to the CLECs and manages relations with CLECs appropriately.

234. CGE&Y made the following recommendations relative to the Relationship Management Evaluation<sup>127</sup> which Staff recommends the Commission adopt:

- a. Qwest should develop a process to seek and receive approval from a CLEC before performing any changes to a CLEC-owned account. Currently, Qwest initiated activities are shown as "Completions" on a Loss and Completion Report, but little detail is provided, causing undue confusion. Implementation of this recommendation may provide an opportunity for Qwest to improve the quality and value of the Loss and Completion Report that Qwest provides to CLECs. Notification to a CLEC indicating that Qwest-initiated changes have been made would potentially facilitate the reconciliation of the Loss and Completion Report.

<sup>126</sup> A total of 45 IWOs were addressed in the RME.

<sup>127</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, page 26.



This recommendation was developed to address the issue of late notification of order completion on the Loss and Completion Report, and is discussed further in AZIWO2115. This issue is an appropriate candidate for review by the CMP. (Recommendation No. 2).

b. CGE&Y recommends that when Qwest introduces a new product or service that could impact a CLEC account, that the appropriate OSS and process changes are communicated to the appropriate Qwest departments or workcenters. This recommendation suggests that Qwest implement process improvements that would result in a more efficient update of system tables and better communication to work centers which would help ensure efficient processing of CLEC orders. This issue is discussed in AZIWO1134, which allows CLECs to take advantage of new and revised product offerings more expeditiously. It is also discussed in AZIWO1127, which refers to software changes that were outside of a scheduled IMA release that were not communicated to the CLECs. (Recommendation No. 4).

c. CGE&Y recommends that Qwest provide CLECs a 45-calendar day advance notice of final EDI design documentation. This recommendation simply suggests that Qwest conform to the timelines for issuance of EDI design documents, as presented by the CMP Redesign Team. The basis for this recommendation can be found in the Relationship Management Evaluation section of this [CGE&Y's] report on page 395, as well as in the CGE&Y report Qwest Change Management Process Redesign Evaluation, Version 3.0, page 43. (Recommendation No. 7).

235. Staff recommends that the Commission find that Qwest meets § 271 requirements with respect to Relationship Management, and adopt the recommendations by CGE&Y set forth above.

## **7. PERFORMANCE MEASUREMENT EVALUATION**

### **a. Evaluation Objectives and Process**

236. Data accuracy assurance was a primary OSS Test objective. This objective was accomplished through a three-stage process—Performance Measurement Audit (PMA), Functionality Data Reconciliation (DR), and Functionality Test Results Comparison (FTRC).<sup>128</sup> This three stage process represents a complete cradle to grave review and validation of Qwest's performance measurement data collection and processing.

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<sup>128</sup> CGE&Y 1, Arizona §271 Performance Indicator Definitions (PPI) Data Element Summary Report, January 18, 2002; and Qwest Performance Measurements Audit: Final Report, December 21, 2001.

- Performance Measurement Audit (PMA) – The first stage of the process was the PMA. The OSS Test program commenced only after conduct of an extensive audit of Qwest’s performance measurement reporting process. All measures, and virtually every sub-measure and level of disaggregation was ultimately audited. A Functionality Test (FT) “entrance criterion” was that the performance measurements identified in Appendix C of the Master Test Plan (MTP) termed Functionality Test Measures (FTMs), had to successfully “pass” the PMA. Included in the PMA was also a validation of Qwest input data where possible. This validation consisted of on-site visits to locations where data were processed for input into Qwest systems. An overview of the PMA and data reconciliation process is provided in Appendix F.
- Data Reconciliation Report for Functionality Test Results – The second stage of the data reconciliation effort evaluated the extent to which the data captured in Qwest’s ad hoc data files, and used to calculate §271 performance measurement results, accurately reflected the test transactions executed and the performance observed by the Pseudo-CLEC. The derivation of Qwest’s ad hoc data files from Qwest’s detail data files was previously validated in the PMA. The data reconciliation effort differs from the PMA in that it focused on evaluating the extent to which all transactions, as recordable by a CLEC would be represented in Qwest’s source performance measurement data, and vice versa.
- Functionality Test Results Comparison Report – The data reconciliation process did not validate all the Qwest ad hoc data elements that are used to calculate §271 performance measurement results. The Functionality Test Results Comparison completed the third stage of the data validation process. For each performance measurement in Appendix C of the MTP, CGE&Y calculated results for a corresponding aggregated measure using data elements available in the Pseudo-CLEC data. CGE&Y compared these results to results calculated using Qwest ad hoc data for similarly aggregated measures. The results comparison showed that in most cases, there was a high level of agreement between results calculated from Qwest ad hoc and Pseudo-CLEC data.

237. Qwest and CLECs in Arizona, under the guidance of the ACC, established a set of performance measures to adequately assess Qwest’s performance in meeting non-discriminatory access requirements of the 1996 Act. PMA “Test Scenarios” and associated performance measures that were audited are provided in Exhibit 9-1.<sup>129</sup> These measures were contained in the Arizona Performance Indicator Definitions (PID) 5.1, which was in effect at the start of the PMA process.

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<sup>129</sup> PID, version 5.1 (PID 5.1) dated August 28, 2000 was in effect at the beginning of the audit. Version 6.3, dated May 2, 2001, was accepted by the parties and in effect at the conclusion of the audit.

238. Prior to the PMA, Qwest was utilizing various automated and manual systems for gathering, summarizing and reporting PIDs. Performance measurement "source transactions" were reviewed and validated by the TA to assure that they adhered to business rules developed by Qwest, and were properly recorded in Qwest's OSS. During the course of the PMA, Qwest implemented a web site and posted PID results (beginning with December 2000 data).

239. The TA analyzed at least three months of data for all PIDs, and in some instances six months of data were analyzed. The PMA validated by all aspects of Qwest's performance measurement processes, procedures, documentation, data collection processes, business rules exclusions, calculation methods, and provided a qualitative assessment of performance measurement operations. The TA also examined Qwest's compliance with requirements of the Arizona PIDs for providing performance measurement information to CLECs within Arizona.

240. During the course of the PMA, the TAG developed, revised and approved the Arizona PIDs per PMA requirements. The PIDs underwent numerous enhancements during the course of the PMA that involved incorporation of new measures, deletion of obsolete measures and modification of existing measures in response to issues identified during the course of audit.

**b. Audit Results**

241. The PIDs included forty-six performance measurements (two of which were then under revision) with approximately 700 "sub-measures" of disaggregation.<sup>130</sup> The PMA assessed the accuracy, quality, consistency and reliability of Qwest's data and Qwest's general compliance in gathering data, calculating results and reporting on these agreed to measures at every disaggregation level.

242. IWOs were generated when problems or potential improvements of OSS performance measurements were identified. A total of 128 IWOs were created during the course of the audit. These were cross-referenced and classified by the type of performance measurement. Two IWOs had a potential Level 3 impact; 75 IWOs had a potential Level 2 impact, and the remaining 51 IWO had Level 1 impact.<sup>131</sup>

243. The breakdown of improvements to the Arizona PID is as follows:

- a. 30 IWOs addressed the need for clearer documentation or actual PM improvements.

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<sup>130</sup> Arizona §271 Performance Indicator Definitions (PID) Data Element Summary Report, January 18, 2002, Table 1, pages 26-40.

<sup>131</sup> "Level 3" represents an incident that negatively affected CGE&Y's finding regarding whether Qwest had passed part or the entire test. "Level 1" represents the lowest level of severity. All IWOs assigned this level were considered observations that did not affect the successful outcome of a test step or the completion of a test script.

- b. 38 IWOs resulted in improvements to the code Qwest utilized in producing performance measurement results.
- c. 20 IWOs resulted in revisions or updates to Qwest's process documentation to reflect actual processes used to produce the measurement results in order to comply with the requirements of the current PID.
- d. 8 IWOs resulted in process improvements.
- e. 8 IWO achieved reconciliation of Qwest's raw data.
- f. 7 IWOs resulted in mechanization of Performance Measures previously provided through manual methods, thereby eliminating potential for human error.
- g. 4 IWOs contributed to reporting process improvements.
- h. 1 IWO involved improved change control methodology.
- i. 1 IWO resulted in a system improvement.

244. Collectively, resolution of these problems during the course of the PMA enhanced the integrity of the PIDs, and rationalized performance measurements with the requirements for PID determination.

**d. PID Data Element Summary Report**

245. In addition to the PMA, the TSD required independent verification of Functionality Test Measurements (FTMs) utilizing data captured by the Pseudo-CLEC during the FT. This analysis, however, as described in the TSD, could not be performed. Many of the data elements required for this analysis are not furnished to CLECs. Therefore, an analysis was performed to apprise CLECs as to what data used by Qwest in its PID calculations were not reported or available to the Pseudo-CLEC so that calculations of FTM results could be calculated directly from Pseudo-CLEC data. Details concerning the source of data elements required to calculate the PID were provided in CGE&Y's PID Data Element Summary Report.<sup>132</sup> This report identified data sources on an element-by-element basis, as to being available or unavailable to the Pseudo-CLEC. This report determined:

- a. Whether an element was returned to the Pseudo-CLEC via "gateway notifiers" and validated as part of the data reconciliation process.

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<sup>132</sup> Arizona §271 Performance Indicator Definitions (PID) Data Element Summary Report, January 18, 2002.

- b. If data were not available to the Pseudo-CLEC, whether the data element was available to the Pseudo-CLEC as part of the FT by other means.

246. Because of the problems identified in the report, CGE&Y provided the required data reconciliation with the Data Reconciliation Report for the Functionality Test Results and the Functionality Test Results Comparison Report. These are discussed in the next two sections.

e. **Data Reconciliation Report for the Functionality Test Results**

247. CGE&Y undertook an extensive Data Reconciliation process where all the data elements captured by the Pseudo-CLEC through the gateway notifiers were compared to corresponding Qwest ad hoc data elements. Discrepancies were noted using the Incident Work Order (IWO) process as defined in Appendix I of the TSD. This process was intended to verify that all the records submitted by the Pseudo-CLEC were captured by Qwest and contained within its source data, and that the Qwest data did not contain additional or incorrect records. Any material discrepancies identified between the Pseudo-CLEC and the Qwest ad hoc data resulted in CGE&Y replacing the ad hoc data element with the Pseudo-CLEC data. Results of this data reconciliation process are documented in CGE&Y's Data Reconciliation Report, which is Appendix L to the OSS Test Final Report. Section 2.5 results (of the CGE&Y OSS Test Final Report) were then updated to reflect the results that would have been obtained using the independently gathered Pseudo-CLEC data. It was CGE&Y's opinion that this satisfied the TSD requirement to independently calculate measures using the Pseudo-CLEC data.

248. CGE&Y's data reconciliation of information provided to the Pseudo-CLEC via gateway notifiers verified that with few exceptions, Qwest included all Pseudo-CLEC activities in its ad-hoc datasets used for §271 performance measurement data processing. Moreover, the data reconciliation verified that the majority of data elements contained in the Qwest ad hoc data matched those captured by the Pseudo-CLEC and CGE&Y. CGE&Y issued 19 IWOs as part of the data reconciliation process. Each of these IWOs was subsequently closed based on Qwest's resolution. In fact, of the discrepancies noted in the data reconciliation report, only Pseudo-CLEC data for BI-2 and BI-4 were found to be materially different from Qwest ad-hoc data. In these cases, CGE&Y amended results in §2.5 of the Final OSS Test Report. In addition, Qwest instituted fixes which CGE&Y verified, so that Qwest's ad-hoc data could be relied upon for future results.

f. **Functionality Test Results Comparison Report**

249. The data reconciliation process did not validate all the Qwest ad-hoc data elements that are used to calculate §271 performance measurement results. The Functionality Test Results Comparison completed the data validation process. For each performance measurement in Appendix C of the MTP, CGE&Y calculated results for a corresponding aggregated measure using data elements available in the Pseudo-CLEC data. CGE&Y compared these results to results calculated using Qwest ad-hoc data for similarly aggregated measures. The results comparison showed that in most cases, there

was a high level of agreement between results calculated from Qwest ad-hoc and Pseudo-CLEC data.<sup>133</sup> For those cases where results indicated differences, CGE&Y issued seven IWOs. CGE&Y subsequently closed these 7 IWOs based on Qwest's resolutions.

250. CGE&Y's analysis did reveal that due dates transmitted to the Pseudo-CLEC via the original FOC did not match due dates recorded in RSOR in a large number of cases (See AZIWO2130). These discrepancies were the result of manual errors on Qwest's part in providing the FOC to the Pseudo-CLEC. The due date provided on the service order was determined per the service interval guide but was different than the due date transmitted via the FOC. CGE&Y validated that Qwest has instituted several quality control mechanisms to ensure FOC accuracy and agreement with the service order due date, and retest results show that discrepancies have been significantly reduced.

251. CGE&Y's analysis of Functionality Test Measure results did not reveal any significant or systemic errors in data elements contained in Qwest ad-hoc data. In fact, discrepancies found were generally due to the Pseudo-CLEC not receiving the same data element that is used for measurement calculation purposes. Therefore, CGE&Y is confident that Qwest's ad-hoc data are including all CLEC transactions, and the data elements associated with CLEC transactions are accurate and complete.

**g. CGE&Y's Conclusions**

252. Based on the findings of the described data validation process CGE&Y finds that Qwest performance results accurately reflect performance observed by CLECs.<sup>134</sup> For the most part, the number and severity of discrepancies identified in Qwest's ad-hoc data were immaterial and had no significant impact on performance results. In those cases where data discrepancies were more severe, CGE&Y verified that Qwest has fixed its processes and is now accurately reporting performance results or is providing the correct data element to the CLEC. Therefore the findings as presented in §2.5 of the Final OSS Test Report for the Pseudo-CLEC can be relied on for parity/disparity determinations. More importantly, the Qwest published CLEC commercial results can be relied on for parity/disparity determinations going forward, based on CGE&Y's validation of Qwest's fixes.

**h. Liberty Report on Qwest Performance Measurement Data Reconciliation**

253. The Liberty Consulting Group (*Liberty*) conducted an audit of Qwest's performance measures for the Regional Oversight Committee (ROC), and issued the final report from that audit on September 25, 2001.<sup>135</sup> As an extension to the audit, and through its Change Request process, the ROC requested that Liberty conduct a "data validation to resolve any debates concerning the accuracy of performance data emanating from particular ROC PIDs." (ROC Change Request #20.) Certain CLECs have expressed

<sup>133</sup> Functionality Test Results Comparison Report, Version 2, March 1, 2002, pages 61-62.

<sup>134</sup> Liberty Data Reconciliation Update, February 2, 2002, page 15.

<sup>135</sup> Liberty Data Reconciliation Update, February 2, 2002.

concerns about the accuracy of Qwest's reported performance results as they relate to service that they have been receiving. The ROC decided to conduct this data reconciliation work in order to test those concerns. Liberty's performance measures audit applied to all of the ROC states. Although Arizona is not participating in the ROC §271 OSS Test, Liberty was requested to include Arizona in the scope of its data reconciliation work. The following paragraphs provide the results of Liberty's review of Arizona data.

254. Three CLECs, AT&T, WorldCom and Covad, asked Liberty to reconcile data on a few of Qwest's performance measures. These CLECs focused exclusively on unbundled loops, line sharing, and interconnection trunk performance. Given that CGE&Y and Liberty had already audited Qwest's performance measures and found them accurate and reliable, to participate in the reconciliation the CLECs were required to come forward with evidence showing that Qwest's performance data were inaccurate.

255. In the course of its data reconciliation work in Arizona, Liberty found that Qwest did make some errors that affected performance results. However, those errors were generally either:<sup>136</sup>

- a. Of the kind and at levels to be expected at the front end of the performance measurement process, where people must manually enter vast amounts of information, or
- b. Appeared to be honest errors in judgment.

256. The amount of these errors, in relation to the total amount of information required for the performance measures, did not exceed what Liberty considers to be expected levels, even under a carefully operated set of measurement activities. Moreover, there was no evidence that Qwest purposely took steps to make its performance figures appear better than they actually were. With the exception of a programming problem associated with measure OP-15 and a failure to report a group of Firm Order Confirmations in June 2001, the errors were not systemic, nor did they apply to a significant percentage of the performance measure results.

257. With the Arizona report, over the past four months Liberty has issued five Interim Data Reconciliation Reports and a Final Report on April 19, 2002, each based on a detailed order by order review of various records. In total, Liberty has analyzed well over 10,000 orders. These reports describe Liberty's detailed review of performance data from the states of Arizona, Colorado, Nebraska, Washington, Oregon, Utah and Minnesota.

258. The total reconciliation effort resulted in Liberty issuing one Exception report and 13 Observation reports. All 14 of these matters have been closed. About half of the problems that Liberty identified were process or system type matters. The other half of the problems was associated with human errors. In some cases Liberty suggested that the human error issues identified could be used to identify areas for future

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<sup>136</sup> Ibid. pages 3-4.

monitoring or auditing of Qwest's performance measures. In its Final Report Liberty stated "none of the human-error issues combined with Qwest's corrective actions caused Liberty to believe that Qwest's current performance reporting could not be relied upon as a measure of Qwest's actual performance.

259. In the Final Report Liberty summarized its original audit and its reconciliation work as follows: "... and on the basis of its audit and data reconciliation work that has spanned nearly two years, and on the resolution and corrections of the matters addressed in the 84 Observation and Exception reports that it has issued, Liberty believes that Qwest's performance reporting accurately and reliably reports Qwest's actual performance".<sup>137</sup>

260. Including all states in this Liberty data reconciliation effort is important because of the fact that Qwest systems are common, and the operations centers handling the various states are common. Data problems found are therefore common to all states. The corrections applied on the findings in any one state also correct the problem for all states.

**i. Staff Discussion and Recommendation**

261. Based on the work done in the Arizona three-phased OSS Test approach, and the work from the Liberty Consulting Data Reconciliation, Staff is of the opinion that Qwest commercial reported CLEC data are accurate. These data can be relied upon in determining Qwest performance in meeting its 271 obligations.

262. Staff observes that impact of the Performance Measurement Evaluation transcended the OSS Test and profoundly influenced Qwest's perception of PID development and data verification. At the outset of the OSS Test, PID development was perfunctory, with only a minimal set of PIDs directed to CLEC performance measurements.<sup>138</sup> Data correlation and crosschecks were limited or non existent. Now a comprehensive set of PIDs is reported on a monthly basis. Extensive data analysis and verification has provided a data accuracy assurance; and the relationship of data available to the CLECs and Qwest's commercial data are well understood, providing the basis for Staff's recommendations for further process improvements.

263. Staff recommends that the Commission find that Qwest's commercial reported data are accurate and meet §271 requirements.

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<sup>137</sup> *Ibid.* pages 3-5.

<sup>138</sup> Before the OSS Test began, Staff held several workshops with CLEC and Qwest participation and developed a comprehensive set of PIDs for use in the test, as well as for monitoring post-test performance. A subset of these PIDs has been incorporated in the PAP Plan.



## **8. QWEST SERVICE PERFORMANCE COMMERCIAL DATA EVALUATION**

### **a. Background**

264. The best determinant of how Qwest provides service to the CLECs is through actual "commercial data" reported performance. The Federal Communications Commission has made clear in its Verizon Massachusetts 271 Order that "the most probative evidence of nondiscriminatory access to interconnection and UNEs is actual commercial usage. This section provides an overview of Qwest current performance based on its published performance data. The data reviewed are from the Qwest March monthly report entitled "Qwest's Arizona March 2001-February 2002 Service Performance Results Report" (covering the recent twelve month period from March 2001 through February 2002). This report is available on Qwest's web site at [www.qwest.com/wholesale/results/index.html](http://www.qwest.com/wholesale/results/index.html).

265. These results are for Performance Indicator Definitions (PIDs) primarily developed prior to the beginning of the OSS test. During the development of the MTP, an initial review of Qwest reported performance results indicated a need for significant additions and refinements. Workshops to develop the required set of PIDs were held with CLECs and Qwest participation, and facilitated by the Staff. In addition to developing the measurements, performance standards were established ("benchmarks" if there were no Qwest equivalents; or "parity" if there were retail equivalents). These PIDs were utilized by the TA for evaluation of Qwest's performance during the OSS Test. However, the PIDs underwent refinement, under the guidance of the TAG, as the Test was executed. Refinements were based on findings from the Test, as well as other sources (to the extent possible, refined PIDs were utilized by the TA). The set of PIDs that evolved is to be utilized by the ACC for evaluating Qwest's performance in providing service to the CLECs and for the Performance Assurance Plan (PAP).

266. Exhibit 9-1 provides an index of the current set of PIDs. The PIDs provide information on Qwest performance in the following areas: OSS system availability and response times, Pre-Order "notifiers" (Firm Order Confirmation (FOC), Rejects, Jeopardies), Service Ordering and Provisioning, Maintenance and Repair, Billing, Data Base Updates, Directory Assistance and Operator Service, Network Performance, Collocation. There are currently 52 such "base" measurements. However, these have been disaggregated into sub-measures for types products, dispatched, non-dispatched, MSA, non-MSA, Zones, etc. The result is performance measures in the hundreds. The scope of these categories is reflected in Exhibit 3-6.

### **b. Performance Data Accuracy**

267. One of the main outcomes of the OSS Test is an evaluation of the accuracy of Qwest data reporting. Prior to test execution, the Performance Measurement Audit was conducted. This audit verified that calculations of PID measurements were performed accurately. This accuracy of the data also depends on the accuracy of the source or input data. OSS Test results were utilized in determining that the source data were gathered accurately. This data collection was verified through reconciliation of the

test database from the Pseudo-CLEC and the Qwest performance reporting database (Qwest ad-hoc database). This data verification has been described in detail in Section 9.0 of this report.

268. In addition to the data verification from the OSS Test, Liberty Consulting was asked to provide data verification using data from the participating CLECs. This effort is also described in detail in Section 9.0 of this report.

269. The OSS Test program commenced only after the conduct of an extensive audit of Qwest's performance measurement reporting process. All measures, and virtually every sub-measure and level of disaggregation were ultimately audited. One major result of the PMA was the development and implementation of a series of PID improvements. The breakdown of improvements to the Arizona PID is as follows.

270. Thirty IWOs addressed the need for clearer documentation or actual performance measurement (PM) improvements, 38 IWOs resulted in improvements to the code Qwest utilized in producing performance measurement results, and 20 IWOs resulted in revisions or updates to Qwest's process documentation to reflect actual processes used to produce the measurement results in order to comply with the requirements of the current PID.

#### **c. Commercial Data Overview**

271. A review of the current Qwest Arizona March 2001-February 2002 Service Performance Results Report Shows that in every reported result, with only one or two exceptions, Qwest is meeting the prescribed benchmark, or is exceeding parity-level service. This represents a significant improvement relative to the first two quarters of 2001, observed during the beginning of the OSS test. At that time Qwest had numerous service failures evidenced in its report.

272. In the Functionality Test performed during the first two quarter of 2001, the TA reported a number of service performance failures either as a result of the Test itself or from the reported commercial performance data. These failures are covered in Section 2.5 of the CGE&Y Final OSS Test Report and summarized in Exhibit 3-9 of this report. Reviewing current data for an update on how past service failures have been addressed indicates that all of the previous parity service problems have been corrected.

273. Some examples of current performance measures and key results are provided below.

- The first result is for OP-3A Installation Commitments Met (Percent)-Dispatches within MSA. The first chart, Figure 10-1 is for Residence (Resale) and the second chart is for UNE-P. The chart furnishes the numerator, denominator, the calculation, and the "Modified Z Score" for PAP calculation purposes. The last column shows the "parity score." A negative number in this column indicates parity or better for the CLEC. Figure 10-1 indicates that, for Residence, the CLECs have

received even better service than Qwest's retail customers for the last twelve months.

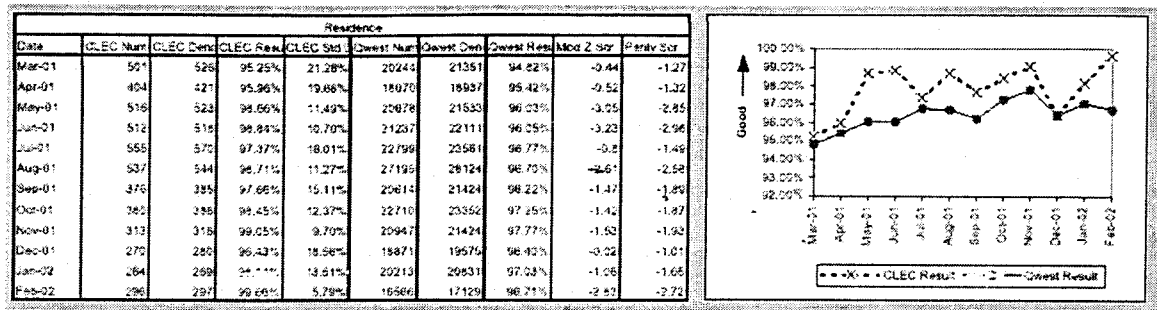


Figure 10-1 - OP-3A Installation Commitments Met (Percent)-Residence (Resale), Dispatches within MSA.

The next chart, Figure 10-2 for UNE-P indicates that the CLECs have received parity or better service since September of 2001.

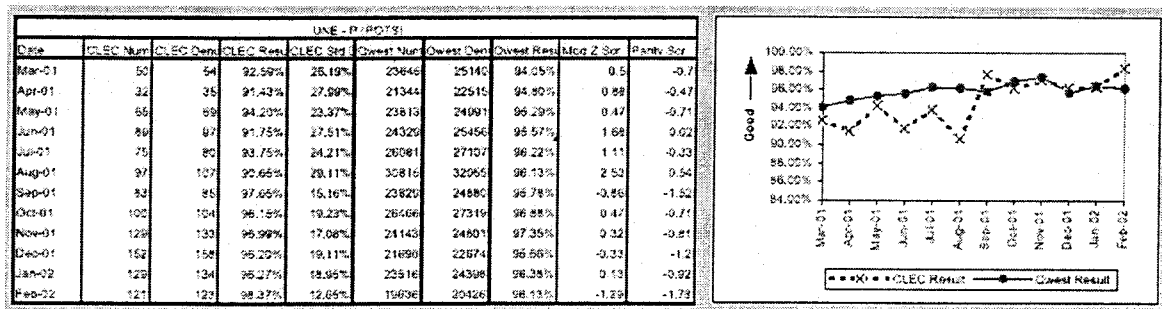


Figure 10-2 - OP-3A Installation Commitments Met (Percent)-UNE-P, Dispatches within MSA.

The following charts are for Maintenance and Repair. The first two charts for MR-6A, Mean Time to Restore (Hours: Minutes) – Dispatches within MSAs are for “Residence” (Figure 10-3) and “UNE-P” (Figure 10-4). Both charts indicate parity or better service for CLECs for the past twelve months.

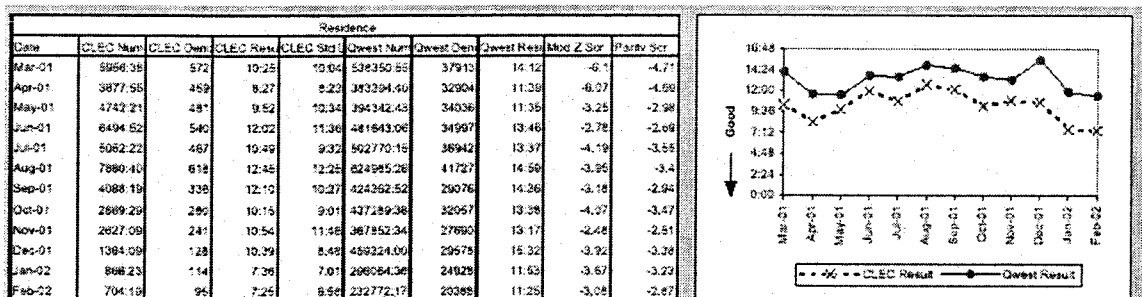


Figure 10-3 - Mean Time to Restore (Hours: Minutes) – Dispatches Within MSAs For “Residence”

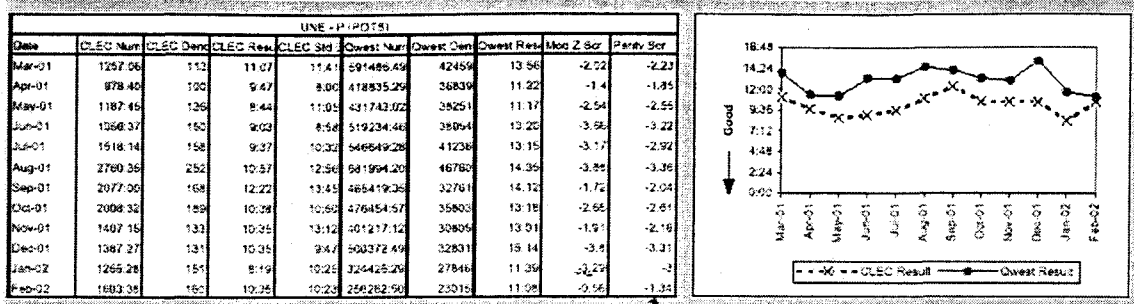


Figure 10-4 - Mean Time to Restore (Hours: Minutes) – Dispatches Within MSAs For UNE-P

The following two charts are for MR-9A Repair Appointments Met (Percent)-Dispatches within MSAs. These charts are for Residence (Figure 10-5) and UNE-P (Figure 10-6) and show results similar to those shown on the two preceding charts.

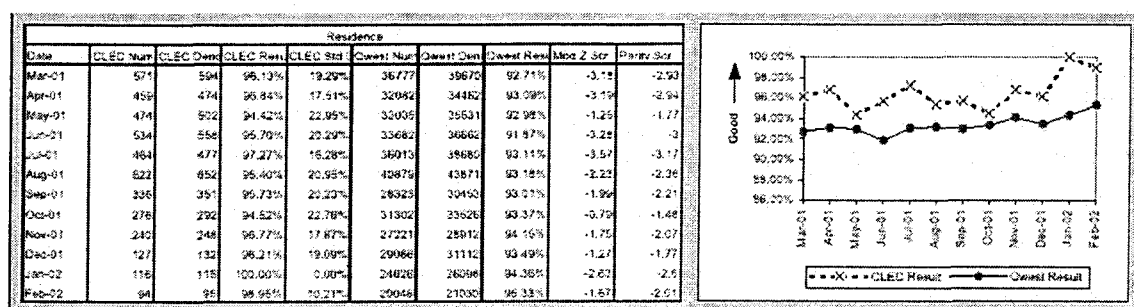


Figure 10-5 - MR-9A Repair Appointments Met (Percent)-Dispatches within MSAs for "Residence"

The following chart (Figure 10-6) for UNE-P indicates parity or better service since June 2001 except for September.

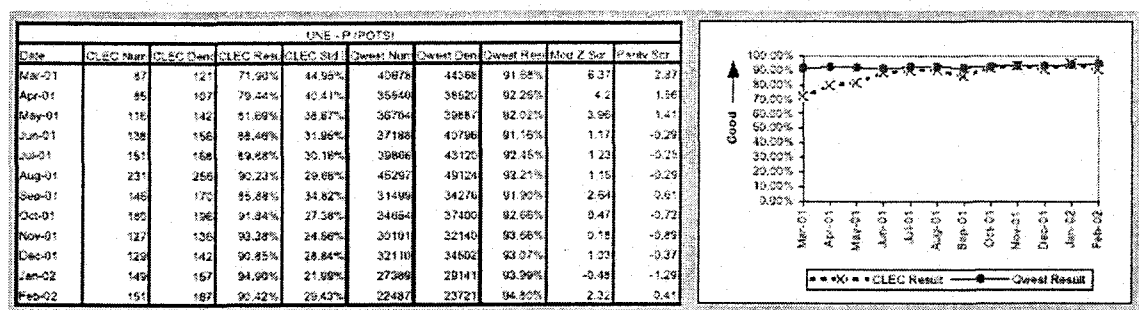


Figure 10-6 - MR-9A Repair Appointments Met (Percent)-Dispatches within MSAs for "UNE-P"

The chart below (Figure 10-7) for MR-7D Repair Repeat Report Rate (Percent), Zone One indicates problems with parity for repeat reports in June, October, November, January and February. However, for this type of facility, trouble report handling and repair are joint responsibility between the CLECs and Qwest. To provide information

relative to this, Qwest has begun publishing an exceptions chart (Figure 10-8) for MR-7D that excludes reports for "Test OK" and "No Trouble Found." This is the second chart below and demonstrates parity for all months reported except for October. It may be inferred from this chart that Qwest and the CLECs need to work closer together on trouble clearing for services that require both parties to provide the service.

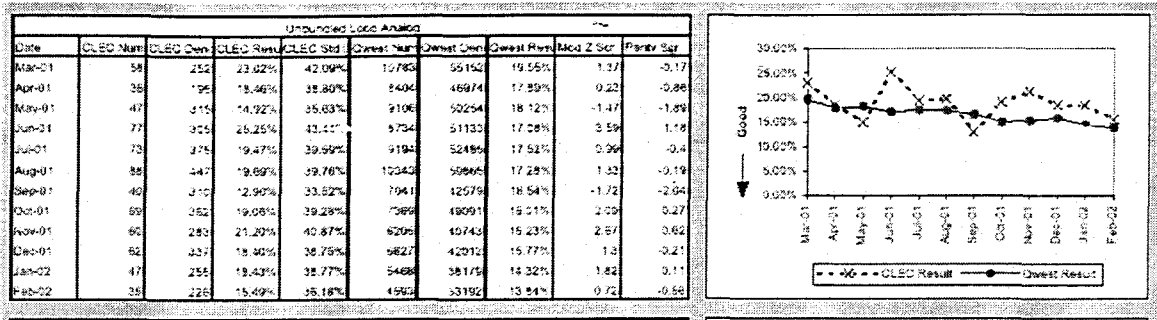
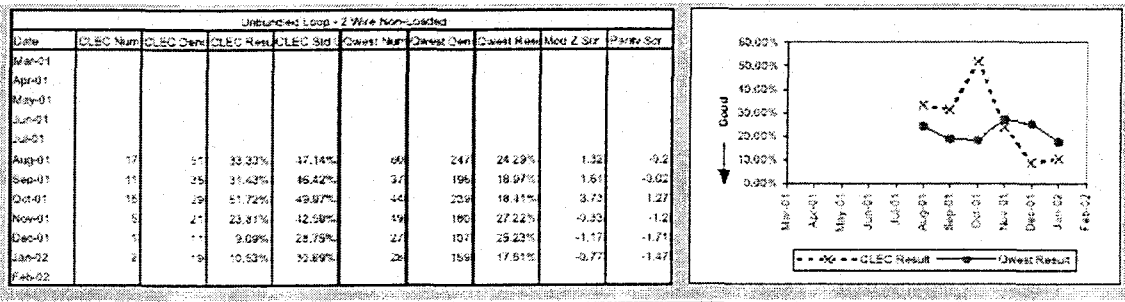


Figure 10-7 - MR-7D Repair Repeat Report Rate (Percent) – Zone One



\*Results exclude No Trouble Found and Test OK reports unless QWEST trouble is found on another report within 30 days of the original report. A 30-day window necessitates reporting a month behind.

Figure 10-8 - MR-7D Repair Repeat Report Rate (Percent) – Zone One Exceptions Chart

#### d. Staff Discussion and Recommendations

274. As discussed in Section 10.2, Staff believes the outcomes of the two independent data reconciliations verify that the performance data being reported by Qwest are accurate. Qwest commercial data reports can be relied upon to provide information on how Qwest is performing as a "supplier of service" to the CLECs.

275. Commercial data that have been audited are even more concrete evidence of Qwest's satisfaction of §271 requirements than are OSS Test Data. This type of data reflects Qwest's actual performance in providing service to CLECs. Based on the "Results" data for the last twelve months through February 2002, Staff concludes that Qwest is providing parity or better service to CLECs and satisfies §271 requirements in this area. Staff acknowledges the significant improvement that Qwest has made in service delivery to CLECs since the start of the OSS Test.

276. Staff recommends that the Commission find that Qwest satisfies §271 requirements with respect to commercial data.

#### **D. VERIFICATION OF COMPLIANCE**

277. CGE&Y found that based on its testing and evaluation of Qwest's OSS, Qwest met the applicable standards established for the test. However, CGE&Y observed opportunities for Qwest to improve its wholesale performance, which may be beneficial to Qwest and to CLECs. CGE&Y did not believe that implementation of any of these recommendations is required to meet OSS test standards, and so stated in its Final OSS Test Report.<sup>139</sup> These recommendations are listed on Exhibit 11-1.

278. Staff concurs with CGE&Y Recommendations 2 through 9, which are improvement recommendations for Qwest systems. Staff agrees that these recommendations would be beneficial to the CLECs.

279. However, Staff disagrees with Recommendation 1. This recommendation provides for an independent audit of all performance measures on a quarterly schedule. This requirement borders on the onerous since it would result in almost continuous auditing. Furthermore, the Arizona Performance Assurance Plan (PAP) provides for an independent audit of Qwest performance measures at an eighteen-month interval. Staff believes the PAP plan requirement is adequate.

280. Furthermore, Staff has additional recommendations that Qwest should implement. These recommendations, however, are not required to be implemented prior to receiving 271 approval, but should be agreed to by Qwest as a condition for granting 271 approval.

281. Staff recommendations are as follows:

- a. Qwest should assess system improvements for reducing the IMA-GUI input steps required by CLECs. This effort should be conducted in conjunction with other system changes.
- b. Qwest should agree to provide CLECs the ability to request ad-hoc data for performance measurement calculations for PIDs contained in the PAP. This would provide the most effective method for auditing the performance results provided by Qwest.
- c. Qwest should test its Daily Usage File (DUF) provisioning to CLECs to ensure accurate and timely delivery of these records. This test should be conducted within 12 months and be conducted with Staff oversight.

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<sup>139</sup> Final Report of the Qwest OSS Test, Version 2, March 29, 2002, page 26.

- d. The ACC should initiate a proceeding to develop and implement Wholesale Service Standards for Qwest.

282. Staff is of the opinion that each of the OSS Tests was successfully executed and their objectives have been fulfilled. Results of the OSS Tests demonstrated Qwest's operational readiness, performance, and capacity to provide access to preordering, ordering, provisioning, repair and maintenance, and billing. OSS functionality provided to CLECs in Arizona meets or exceeds the requirements of a competitor to do business in Arizona.

283. Staff deems the OSS Test portion of Qwest's Section 271 initiative to be complete. In Staff's opinion all the objectives of implementing a comprehensive independent Third Party administered OSS Test have been fulfilled. Staff believes the record compiled during the course of the OSS Test program will demonstrate to the ACC, the DOJ and the FCC, an appropriate degree of Qwest's operational readiness, performance, and capacity to provide access to preordering, ordering, provisioning, repair and maintenance, and billing OSS functionality to CLECs in Arizona. Staff anticipates that process improvements will continue, and that follow-up requirements on selected issues (e.g., CMP, SATE and emerging services) can be suitably monitored and addressed through supplemental filings and escalation procedures.

284. Commercial data have been reviewed by Staff that reinforce Staff's opinion as to Qwest's compliance. This type of data reflects Qwest's actual performance in providing service to CLECs. Based on the data showing results for the last twelve months (through February 2002) Staff concludes that Qwest is providing satisfactory service to CLECs and is 271 compliant in this area. Staff acknowledges the significant improvement that Qwest has made in service delivery to CLECs during the period of the OSS Test, and recommends that the Commission find that Qwest satisfies §271 requirements relative to its OSS.

285. In Staff's opinion, Qwest has made comprehensive OSS and process enhancements to the benefit of the CLECs during the OSS Test. Collectively, resolution of problems encountered at the inception of the program and incorporation of wide-ranging improvements during the course of the three-year program have transformed Qwest's processes from many that were problematic and were inadequate for Section 271 compliance, into a consistent set of processes which now fulfills criteria for Section 271 relief.

286. In addition to enhancements that have been demonstrated through quantitative measures, significant qualitative changes have been realized as well. Staff perceived Qwest's relationship with the CLECs at the outset of the OSS test as unresponsive, with decisions being made unilaterally by Qwest, and CLEC interests marginalized. Results of the Relationship Management evaluation, the CMP development process and other tests suggest that Qwest's relations with CLECs are improving.

287. Staff recommends that the Commission find that Qwest is in compliance with FCC Section 271 requirements relative to the OSS test.

## **II. CONCLUSIONS OF LAW**

1. Qwest is a public service corporation within the meaning of Article XV of the Arizona Constitution and A.R.S. Sections 40-281 and 40-282 and the Arizona Corporation Commission has jurisdiction over Qwest.

2. Qwest is a Bell Operating Company as defined in 47 U.S.C. Section 153(a)(35)(B) and subject to the prohibitions and permissions contained in 47 U.S.C. Section 271 that expressly pertain to Bell Operating Companies.

3. Qwest has sufficiently demonstrated before this Commission that it satisfies all requirements, relative to OSS Testing, and results thereof, specified by the FCC for Section 271 applicants in CC Docket No. T-00000A-97-0238.